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ABSTRACT

The conceptual outline of a series of six studies to be initiated over the next 18 months by the Georgia Postsecondary Education Commission (GPEC) is presented. These studies will culminate in a statewide plan for Georgia postsecondary learning that is planned for 1976. The first four studies are major data collection and analysis activities. They are: (1) the enrollment study, which recommends a comprehensive, 5- to 10-year historical analysis of enrollment trends; (2) the accessibility study, which provides several potential methodologies for gauging the accessibility of Georgia educational institutions in terms of geography, tuition, and the nature of the region; (3) the potential program duplication study, which recommends techniques for constructing a program inventory; and (4) the proprietary school report, providing a critique and analysis of a previous proprietary school survey. The fifth study reported, the issues and problems study, suggests how the GPEC can combine public hearings and small group meetings to provide additional data on educational issues. In the final section of this report suggestions are made on how informational and attitudinal inputs can be combined to produce a statewide plan for postsecondary learning in Georgia. (LBH)

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POSTSECONDARY PLANNING METHODOLOGIES

Consultants Report to the
GEORGIA POSTSECONDARY EDUCATION COMMISSION

November 1975

U.S. DEPARTMENT OF HEALTH.
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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HE 008 420

Prepared by: J. Michael Erwin and Donald M. Norris
With the Assistance of: James L. Miller, Jr.
and Marvin W. Peterson

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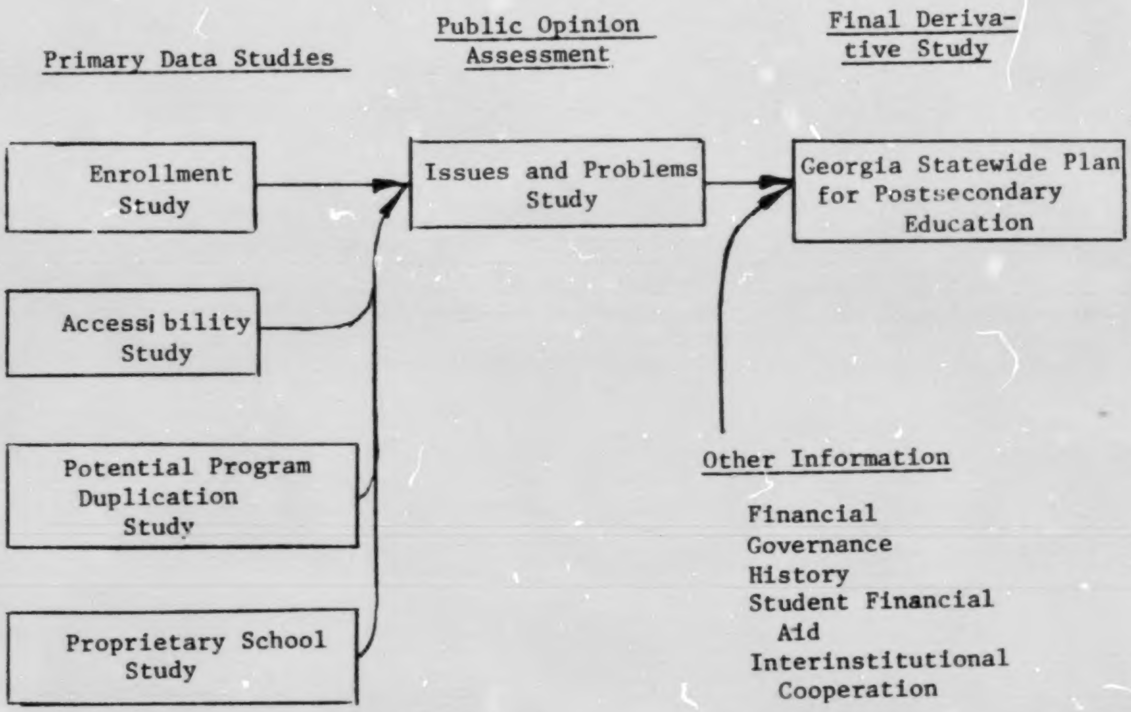
THE NATURE OF THIS REPORT

This report presents the conceptual outline for a series of six studies to be initiated over the next 18 months by the Georgia Postsecondary Education Commission. These studies are designed to provide information on certain key aspects of postsecondary education in the state of Georgia. They will culminate in a statewide plan for Georgia Postsecondary learning which will take shape in 1976. Pursuant to the charge given the consultants on May 19, 1975, by Dr. Robert J. Leonard, Executive Director of the Georgia Postsecondary Education Commission, each of the sections of this report fulfills the following needs: 1) identifies the basic educational issues and key questions that should be addressed by each study; 2) recommends methodological approaches, analytical and statistical techniques, and data elements and sources that may be utilized in addressing the critical issues and questions; and 3) identifies relevant literature and comparable studies that may be useful to the GPEC staff in understanding and performing these studies.

Figure A illustrates the interdependence of the six studies discussed by this report. The first four studies are major data collection and analysis activities in their own right and each is given a section in this report. The enrollment study section recommends a comprehensive, 5-10-year historical analysis of enrollment trends in all Georgia postsecondary institutions, at all levels, and for different types of students. Also, our report recommends a readily implemented technique for projecting potential enrollments in Georgia postsecondary institutions, and a more sophisticated, complete methodology that may eventually be implemented to predict enrollments in different institutions, by level and type of student. The accessibility study section provides several potential methodologies for gauging the accesibility of Georgia educational institutions. Geography, tuition

FIGURE 1

THE SIX STUDIES OUTLINED IN THIS REPORT


Primary Data Studies
Public Opinion Assessment
Final Derivative Study
Enrollment Study
Accessibility Study
Potential Program Duplication Study
Proprietary School Study
Issues and Problems Study
Georgia Statewide Plan for Postsecondary Education
Other Information
Financial
Governance
History
Student Financial Aid
Interinstitutional Cooperation

levels, and the nature of the region are several of the factors which contribute to the calculation of accessibility. The potential _program duplication_ section recommends techniques for constructing a program inventory that will provide a snapshot of the educational programs available by level in Georgia. The _proprietary school_ report provides a critique and analysis of the recent, comprehensive proprietary school survey initiated by the GPEC. Moreover, this report suggests ways to improve the survey in the future and means of utilizing the information in planning activities.

Each of these four primary studies will focus on a particular portion of the educational environment in Georgia. Taken together, the findings from these studies will illuminate changing conditions, trends, issues, and problems of concern to Georgia education. The fifth portion of this report, the _issues and problems study_ section, suggests how the GPEC can combine public hearings and small group meetings to provide additional information on educational issues. This public opinion assessment activity can be used to discover the issues and problems considered important by the laypeople and educators of Georgia. Such assessments are invaluable in devising a politically saleable statewide plan.

The capstone of GPEC's activities is to be a statewide plan for postsecondary learning in Georgia. The major findings from the first four studies will provide information on enrollments, accessibility, potential program duplication, and proprietary schools. Additional information will be added on student financial aid, financial support, interinstitutional cooperation, the historical development of Georgia education, and governance of the University System of Georgia. The issues and problems study will furnish assessments of the educational goals, aspirations, and values of Georgians. The _statewide plan_ section of this report suggests how these informational and attitudinal inputs can be combined to produce a statewide plan for postsecondary learning in Georgia.

This report is not composed of neat planning packages that may be taken off the shelf and applied without modification to the Georgia scene. The changing capacities of the GPEC staff, the availability of assistance from other consultants, additional insights gained from analysis of preliminary data, potential unforeseen problems with data sources and quality, and similar factors demand that the GPEC staff be prepared to modify the recommended procedures where necessary. Moreover, with some of the implementation being done by other consultants, it is critical that GPEC staff delimit the consultants' task and maintain effective control over the management of the studies. Such a strategy will yield the timely information necessary for planning without deluging the GPEC with superflous data and analysis.

POSTSECONDARY EDUCATION ENROLLMENT STUDIES

In the current, fluctuating educational environment, enrollment measurement and projection studies are highly important. To capture changing conditions, these studies must be performed frequently and revised often. Given the current state of the postsecondary education data base in Georgia, the staff capabilities of GPEC, and time constraints, we are suggesting a modest beginning for GPEC enrollment studies. However, we are also recommending a heavy investment of effort in improving the data base and projection techniques, an effort that in several years may result in reasonably sophisticated enrollment measurement and projection.

We recommend that the GPEC enrollment studies program be composed of three stages. First, the GPEC should perform a comprehensive *assessment of ten-year enrollment trends* in Georgia postsecondary education. The data sources recommended for this study are readily available and may be accessed with relative ease. The resulting study will be significant in its own right and will provide inputs to the issues and problems study and to the statewide plan. Second, the GPEC should accompany enrollment trend information with a simple yet graphic projection of the *potential postsecondary learners* in Georgia. This projection is intended to present snapshots of what enrollments *might be* if certain assumptions about the future are fulfilled. When combined in the statewide plan, these two studies will focus policy recommendations. Third, we suggest a concerted effort to *improve enrollment measurement and projection capabilities* in Georgia postsecondary education. To this end we suggest issues specific to Georgia that should be considered in future enrollment studies, possible improved measures of participation in Georgia postsecondary education, and proposed projection techniques. Although we believe that the first two stages constitute a reasonable accomplishment for inclusion in the statewide plan, specific improvements suggested for the third stage should be included in the statewide plan, if time permits. Our suggestions are supported by a technical report which discusses enrollment issues, techniques, and comparable studies.

Measurement of Ten-Year Trends

For an analysis of ten-year enrollment trends in Georgia postsecondary education, it is recommended that HEGIS data be utilized as the primary source. Although this data has some problems of comparability, quality, and completeness that must be dealt with in preparing the actual enrollment measurement, HEGIS data covers all public and private, two- and four-year institutions and is readily accessible. For enrollments in proprietary schools, the recent GPEC survey is the best source--indeed, the only source. Interstate migration patterns of students and cohort attendance ratios are also to be assessed. Figures 1 and 2 describe the data elements, sources, and analysis that should be utilized in producing this ten-year portrait of Georgia postsecondary education.

As we have defined it, the main thrust of the proposed ten-year analysis is to describe the enrollment trends in Georgia postsecondary education and to compare Georgia to the conditions and trends in the nation and in one or two peer states. This description and comparison would encompass enrollments, degrees granted, in-state/out-of-state migration, and ratio of college attendance for different age cohorts. Our experience has shown that the identification of the actual combinations and stratifications of this data which best illustrate the changing conditions in Georgia can only occur as a result of analyzing the actual data. We have, therefore, specified the types of comparison/stratification only.

It would be relatively simple to construct a data base from readily available institutional sources so that enrollment

FIGURE 1

DATA SOURCES

ENROLLMENT CHARACTERISTICS STUDY FOR GEORGIA EDUCATIONAL INSTITUTIONS

DATA ELEMENTS	SOURCES	DISCUSSION
A. Institutional Data (Collected for every public/private post-secondary school) 1. Total Headcount Enrollments a. By level (undergraduate, graduate, professional, "other") b. First time c. By sex d. By veterans status e. By full-time/part-time 2. Equivalent Full-Time Students (Possibly disaggregated as above)	Enrollment data's primary source will be HEGIS data for 1966-1974. This will cover both public and private 2-4-year colleges and universities. University of Georgia's Quarterly Enrollment Report is a potential source of more current data than HEGIS for 2-4-year public institutions. May be used as a more timely source of "spot" data. Private universities must be dealt with individually for spot data. Proprietary schools were surveyed in Spring of 1975 for enrollment data. This is the only known data source.	There will be some holes in the HEGIS data, some of the institutions will have reported improperly, and there may be definitional changes to wrestle with. Still, the HEGIS data is the best comprehensive data available.
3. Degrees Granted a. First professional, bachelors, masters, doctorate b. By sex	HEGIS data	Same caveats apply.
B. In-State, Out-of-State Migration	SREB, ACE Also, University System of Georgia institutions have their enrollment broken down according to "in-state", "out-of-state".	SREB and ACE data may be spotty, but changes in migration should be pursued. Should be able to generate good trend data by institution or by type.
C. Ratio of Georgians in Different Age Groups Attending College	1970 Census May be available on an annual basis from the Bureau of the Census.	For immediate use, already calculated cohort attendance ratios should be used.

FIGURE 2
ANALYSIS TO BE PERFORMED FOR THE GEORGIA ENROLLMENT STUDY

ANALYTICAL APPROACH	PROCEDURE/DISCUSSION
A. General Portrait of Georgia Enrollment Patterns	There are, of course, a vast number of permutations and combinations of data that are possible. Some of these combinations would become evident only through the actual analysis of the data, however. The following general types of comparison are suggested: A. 1. Comparison of enrollment growth in different types of institutions (public/private; universities, state colleges, junior colleges, proprietary schools) with enrollments alternatively stratified by full-time/part-time, degree/non-degree (if possible), sex, race. Also, compare headcount and full-time equivalent enrollment stratified by institutional type and by level. 2. Comparison of Georgia trends to national trends. Stratify by full-time/part-time, institutional type, and level. 3. Comparison of Georgia's enrollment trends with one or two comparable states in the southeast such as Tennessee or North Carolina.[a] The source of data for the Georgia, national, and peer state comparisons would be HEGIS annual surveys. The findings should be displayed in tabular and graph form. B. The analysis of degrees granted information may be best left to a future report. It may be handy, however, to calculate and plot a "degrees granted/enrollment" ratio. C. Comparison of changes in student migration will illustrate how effectively Georgia is meeting the needs of its students. D. If possible, the "cohort attendance ratios" of Georgia should be traced over time. This may have to be left to a future data, however, depending on the availability of the data. At the very least, 1970 attendance ratios in Georgia should be compared to national and regional data to show how much Georgia can grow before reaching saturation.

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[a] By applying the techniques devised by Kent Halstead in Statewide Planning in Higher Education, North Carolina and Tennessee were identified as Georgia's closest peers. These calculations comprise a technical report appendix to this report.

data can be compared to institutional characteristics and financial information. Financial data and faculty data are available from HEGIS. However, it is strongly recommended that the specific needs for such comparisons be identified before constructing the data base. Such comparisons are not central to the study of enrollment trends. However, they may be important portions of an evaluation of the level of support of individual institutions.

Projection of Potential Postsecondary Learners

The statewide plan should contain a historical assessment of enrollment trends and some conception of where enrollments are heading. Unfortunately, it is doubtful that GPEC could completely implement a truly comprehensive projection methodology, such as the one suggested in the last part of this section, prior to the completion of the statewide plan. Moreover, a weak projection may be subjected to harsh criticism. In order to fulfill the needs of the statewide plan without overstepping its capacity, we are recommending that GPEC implement a simple methodology to predict what enrollments could be if certain key assumptions were met. In this way, levels of potential enrollment can be identified without committing GPEC to any single level. Since enrollment levels can be increased or decreased depending on the policies recommended by the plan, this approach seems quite appropriate to a statewide planning activity.

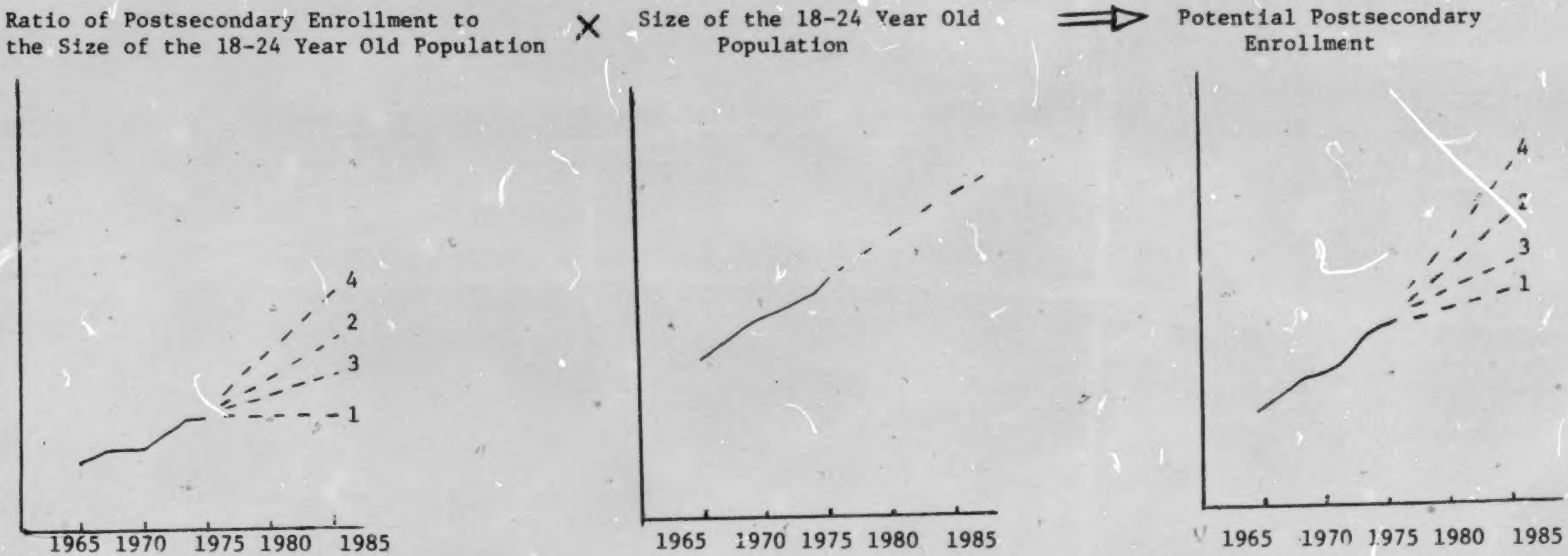
Figure 3 provides a simple schematic of the technique recommended. The two driving factors are the projected ratio of total postsecondary enrollment to the size of the 18-24-year-old age cohort and the projected size of the 18-24 cohort in Georgia. Multiplied together, these driving factors yield projected levels of enrollment. The projected size of the 18-24-year-old cohort should be available from Census sources or from the Office of Planning and Budget. The projections of the cohort attendance ratio are to be derived by the GPEC staff and are the vehicle for introducing assumptions about the future of educational attendance in Georgia.

Although GPEC may generate as many alternative projections as they wish, several suggestions are included in the graph farthest to the left of Figure 3. Assumption #1 posits that the current cohort attendance ratio will continue to be constant for the next ten years. This is a highly unlikely assumption, given the low Georgia ratio relative to the rest of the nation, the rise in adult learning, and the increasing economic well-being of Georgians. Nevertheless, what this projection will reveal is that even if the attendance ratio remains constant, there will be a large increase in postsecondary learners in Georgia. The reason is that Georgia's population is projected to increase significantly, especially in Atlanta and among the young. This projection will make a case for the need for continued growth in postsecondary learning.

Assumption #2 is more realistic: that cohort attendance ratios will continue to grow at historical rates. The projected line can be achieved by regression, simple averaging, calculation of average yearly increments or whatever. These projections may be done by the GPEC staff, armed with a desk calculator. This line reflects the notion that an ever increasing proportion of Georgians will continue to seek postsecondary learning. The projected enrollments will show dramatic increases, due both to increasing population and increasing participation rates. Assumptions #3 and #4 assume, respectively, that participation will increase at rates slightly less than, and slightly greater than, the historical trends. The projected ratios may differ on the plus and minus side of the projection of historical trends by 5 or 10%, depending on the wishes of the GPEC staff. The decreased rate of growth of participation could be attributed to a disenchantment with higher education as has been evidenced in some other states. The increasing rate of participation could be due to burgeoning adult learning. Both of these projections would nevertheless show increasing postsecondary enrollments to

Figure 3

PROJECTION OF POTENTIAL POSTSECONDARY LEARNERS



Ratio of Postsecondary Enrollment to the Size of the 18-24 Year Old Population × Size of the 18-24 Year Old Population ⇒ Potential Postsecondary Enrollment

Assumption #1: Enrollment ratio will remain constant at 1975 level (highly unlikely)

Assumption #2: Enrollment ratio will continue to grow at historical rate

Assumption #3: Enrollment ratio will grow, but at a reduced rate

Assumption #4: Enrollment ratio will grow at an accelerated rate

Assumptions carried over from projection of enrollment ratio

1985.

The particular projections of participation rates generated are at the discretion of the GPEC staff. The critical point is that by having available alternative potential enrollments, the statewide planner may choose from a selection of possible futures. If the GPEC staff is able to proceed far enough in implementing the projection techniques suggested later in this report, it should do so. Such improved methodologies could be used to project a more sophisticated and detailed projection that could be considered a "most likely" scenario. However, there is still merit in providing for the statewide plan a variety of alternative projections reflecting different possibilities for postsecondary learning in Georgia.

Improving Enrollment Measurement and Projection Capabilities

The data sources and techniques identified for the assessment of ten-year trends and the projection of potential postsecondary learners are within the capabilities of the GPEC, assisted by various consultants. While adequate to the requirements of an initial enrollment study and the statewide plan, these data and analytical techniques need to be improved to provide a more advanced product that addresses Georgia's particular needs. The following discussion recommends such improvements. Some of these recommendations may be implementable prior to the completion of the initial enrollment study and statewide plan; if so, they should be included in those efforts. Otherwise, the GPEC should strive to implement these recommendations for future use in measuring, analyzing, and predicting postsecondary enrollments.

Special Needs of Enrollment Studies in Georgia

Given the fact that the South is lagging several years behind educational developments in other states, Georgia is provided with a unique opportunity to learn from the problems being experienced nationwide that have not yet intruded upon the Georgia scene. In particular, the problems that many states experienced in predicting the decline in enrollment rates of 18-19-year-olds and in dealing with the repercussions, in assessing the reality of the predicted growth in adult learning, and in providing educational opportunity to match potential demands in growing metropolitan areas may be avoidable in Georgia through appropriate data analysis and policy modification.

Following years of continued increases, in 1969 the percent of male high school graduates in the nation who chose to enroll in postsecondary education declined. The end of the draft and declining perceived rewards from college were the posited causes of this phenomenon, which in turn contributed toward declining enrollments in several types of institutions. Enrollments in Georgia, on the other hand have continued to grow, and can probably be expected to continue to grow in the future, given the projections of expansion for the state. In order to avoid the problems experienced by other states, it would behoove Georgia to begin to monitor how much of its institutional enrollment growth is due to increasing population, and how much is due to increasing attendance rates among the traditional 18-24-year-old learner cohort. Indeed, the peak rate of attendance identified by the national data can be used as a rate which Georgia may continue to approach, but will probably never exceed, especially given Georgia's relatively low rate of high school completion.[1]

Many institutions that have experienced enrollment plateaus or declines are placing much stock in attracting legions of "adult learners" that will swell their enrollments. In reality, different institutions (such as urban centers with adult-oriented programs and schedules) will attract larger proportions of these new learners. There is no reliable guide as to how large the potential market for adult learners might be. Much of the popularity of adult learning may ultimately depend on economic well-being and on whether the state will provide support for non-degree credit learning activities. It is important, however, for Georgia to begin to monitor the number of adult learners enrolled in its institutions. Public and institutional policy can be influenced by these demonstrations of adult learner demand.

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[1] According to Kent L. Halstead's Statewide Planning in Higher Education, Georgia in 1969-70 was 45th among the 50 states in the percentage of its 17-year-old population having a high school education (67%).

It is important for Georgia to differentiate between its enrollments in its more rural portions and in its metropolitan areas. In 1974, a rough analysis of population reveals that roughly 2,720,000 of Georgia's 4,786,000 people lived in the counties comprising the Georgia portions of the Albany, Atlanta, Augusta, Chattanooga, Columbus, Macon, and Savannah metropolitan areas.[2] Most of the predicted growth in Georgia's population over the next three decades will be in these metropolitan areas, especially Atlanta. For example, the Atlanta Regional Commission estimates that in the year 2000, the Atlanta metropolitan area will have swelled from its present population of 1.7 million people to somewhere between three and four million Georgians.[3] Enrollment measurement and projection must begin to focus these conditions.

Enrollment studies should interfere especially closely with accessibility studies, since limited accessibility for commuters and adult learners may limit the potential enrollments that may be achieved. Atlanta is a particularly telling case in point. With most of the major institutions in downtown Atlanta, and most of the growth occurring in the suburban counties, the potential enrollment of commuting learners may not be achieved.

---

[2] Compilation of data from U.S. Bureau of Census, Current Population Reports: Population Estimates.

[3] Atlanta Regional Commission, Population and Economic Forecasts to the Year 2000. October, 1973. These projections suggest that Georgia's population may also be younger than the national average.

And if the downtown institutions offer programs that meet the needs of downtown Atlantans, they may not attract learners from outlying regions.

Improved Measures of Participation in Georgia PSE

The enrollment projection model that is being recommended is powered by two driving factors: population and the percentage of people in each age cohort that attend college. In order to utilize this model and to better understand participation is postsecondary education in Georgia, it is necessary to be able to measure the number of persons in different age groups that have attended postsecondary education, and to predict future populations in these cohorts. Attendance ratios for the future can then be predicted, multiplied by population predictions, and predicted enrollments are thus calculated. Population predictions are reasonably available and accurate. Attendance ratios are most difficult to attain.

Figure 4 shows the data sources that would be necessary to calculate attendance ratios and population projections. There is still a chance that historical attendance ratios for Georgia may be available from a "canned" data source. Otherwise, they should be calculated from Georgia enrollment and population data, if possible. It may be necessary to utilize imperfect attendance ratios; for example, the ratio of college enrollments to the population of 18-19-year-olds is an imperfect ratio that may be better than nothing for Georgia. Or the ratio of total enrollments in Georgia institutions to the total population could be used as a ratio, the out-of-state migration being assumed to remain constant, and the distribution of learners in different age groups being assumed to remain constant as well. Hopefully, however, a more legitimate set of attendance ratios can be calculated.[4]

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[4] Another potential ratio is the ratio of enrollments to the sum of Georgia high school enrollments over the last six years. This technique was used in College Enrollments and Projections in North Carolina, 1975-1980. Research Report 2-75 (May 1975) UNC, Chapel Hill, North Carolina.

FIGURE 4
RECOMMENDED NEW SOURCES OF DATA TO BE INCLUDED IN FUTURE GPEC ENROLLMENT STUDENTS

CATEGORY OF DATA/ SPECIFIC DATA ELEMENT	SOURCE/DISCUSSION
A. Population Measurements and Projections	
1. National Population Statistics a. Historical, and projections b. Stratified by age cohorts, race, sex	Historical: Ten-year census figures and annual updates using sampling techniques. Annual updates are a year old. Projections: Annual projection of population, disaggregated by age cohorts.
2. Georgia Population Statistics a. Historical, stratified by counties, age cohorts, race, and sex b. Projections (1) By county (2) By age, race, and sex	Historical and Current: Census data. The Office of Planning and Budget provides an annual update of population by county which they feel is more accurate than census. Projections: The OPB provides a ten-year projection of population by age, race and sex. They also are preparing a county-by-county projection for five-year intervals to the year 2000.
B. Historical Enrollment by Age, Race, and Sex	Census yearly update of school enrollment by age, race, and sex for nation. HEGIS contains breakdown by sex.
1. National Data a. By age b. By race and sex	HEGIS contains breakdown by sex. Census may have tapes which could be accessed for Georgia statistics by age, race and sex. Alternately, the University System of Georgia collects the following information in its Quarterly Enrollment Report: 1. Enrollment disaggregated by race and sex. 2. Freshman enrollments stratified by age, sex, residency.
2. Georgia a. Age, race, sex	
C. Historical Enrollment by County/Census Tract	Ten-year census has school enrollments by Census Tract and County. Yearly update needs to be investigated. The University System of Georgia may have such data on total enrollments or entering freshmen on a report form other than the Quarterly Report. Or the data may be available institutionally. Addition to population projections: ARDC's, especially Atlanta Regional Commission, are treasure troves of projections of economic, population, and sociological statistics.

Proposed Projection Techniques

A number of biases have entered into the construction of the proposed projection methodology. These biases have been formulated as a result of the analysis of existing projection techniques that is discussed in the technical report. First, we believe enrollment projection should describe as well as predict. Projections that merely extrapolate trends in the level of enrollment do not explain why enrollments are increasing and do not allow for anticipating plateauing enrollments. The projection of cohort attendance ratios does accomplish these ends. Second, statistics and analytical approaches should be utilized to enlighten, not obscure. Highly sophisticated methods of extrapolation are not as useful as sound educational judgment, especially during periods of profound change. Third, the use of the 18-21-year-old cohort group must be broadened to include adult learners. Fourth, there is nothing magical about ten-year baseline periods, and not every projection must go to the year 2000. Especially if rapid changes are perceived to be occurring, long-term projection is apt to be inaccurate, and more effort should be expended to ascertain how conditions are changing and why. Finally, enrollment projections should be revised often. They should be considered more like a working budget than a grand design.

Figure 5 explains a suggested methodology for using historical enrollment data, Georgia-calculated attendance ratios or "canned" ratios from other sources, and projections of population to achieve a projection of enrollment. The level of disaggregation of the projections, the interval projected, the "ceilings" and extrapolative techniques may vary from the simple to the complex. The resources cited in the technical report furnish guidance in selecting these factors.

The procedure discussed in Figure 5 projects total enrollment and then divides it into in-state/out-of-state, public/private, and type of institution categories. Alternatively,

FIGURE 5

RECOMMENDED ENROLLMENT PROJECTION TECHNIQUE FOR FUTURE GPEC PROJECTIONS

PROCEDURES/STEPS	DESCRIPTION
1) Exhaustively analyze ten-year enrollment history. Disaggregate enrollment data on the basis of: (a) age cohorts (b) sex/race (c) public/private (d) University, state college, junior college, proprietary (e) headcount vs. EFT	Take the total enrollments, disaggregate the data, and analyze. This is the historical educational data base.
2) Collect data on the population, disaggregated by: (a) age cohort (b) county (more important for accessibility)	This is the historical population data base.
3) Calculate the percentage of persons in each age cohort that have attended postsecondary education over the historical period.	It may be possible to collect already calculated attendance ratios from the Census or alternate sources. If so, use the "canned" ratios.
4) Examine the trends in cohort attendance over the ten-year period. Extrapolate these trends into the future for the desired periods.	Be guided in the extrapolation by the nature of the trends. For example, if there is a clear upward or downward trend, merely extrapolate the full time period, using appropriate smoothing techniques, or whatever. If there is a "peak" or "valley" in the historical data, it may make more sense to use the most recent five-year period or even a three-year period as the base period. If the attendance ratios have fluctuated up and down, the most recent ratio may be assumed for the future, or perhaps some mean.
5) Apply to the extrapolations of attendance ratios any "ceilings" necessitated by: (a) limited accesibility (b) limitations imposed by a low rate of high school graduation (c) a natural ceiling suggested by a peak in national attendance ratios that has not been surpassed.	This is a "creative" stage in the extrapolation in which the projectors' knowledge of Georgia postsecondary education is used to modify projection of potentially absurd attendance ratios.

FIGURE 5

Continued

PROCEDURES/STEPS	DESCRIPTION
6) Multiply the projected attendance ratios by the projected population in each age cohort to achieve the projected enrollment in each age cohort.	This step arrives at a total headcount enrollment figure for Georgians attending postsecondary educational institutions.
7) From the historical trends in the educational data base, extrapolate ratios for the distribution of total number of Georgians attending postsecondary institutions. Use the following distributions: (a) in-state/out-of-state (b) private/public (c) university/state college/junior college/proprietary (d) graduate/undergraduate Apply floors and ceilings to the extrapolation of distributions, just as before.	This step divides total headcount enrollment into its various components. This distribution may be as simple or as complicated as desired. To be useable and understandable, moderation is urged. It is, of course, possible to extrapolate attendance ratios for each type of attendance institution, and not have to worry about this distribution step. The choice is the projectors'
8) Multiply the distribution ratios times the total headcount enrollment to calculate the final projected enrollments in each category.	

each of these categories could be projected individually. The advantage to the recommended approach is that some notion of the total maximum attendance ratio for each age cohort, based on the experiences of the nation, can be used as an "upper limit" or "ceiling". This device may prevent the projection or prediction of a cohort attendance ratio that is simply too high for Georgia to ever achieve. Should the GPEC desire, it might be possible to create several projections: One a "maximum" projection, another a "minimum" projection, and a third "most likely" projection.

The recommended primary projection methodology and "multiple projections alternative" produce enrollment projections for general postsecondary planning. Especially in comparing the roles of proprietary schools and the occupational offering of community colleges and state colleges, the GPEC may eventually want to get into the business of manpower forecasting. To accomplish this, the GPEC could project the number of persons employed in certain occupational and professional areas, the number of graduates from Georgia occupational programs that are employed in these sorts of programs, or some combination of these factors, possibly stratified by age cohorts. (This assumes the importance of re-education. It may be possible to deal mainly with the 18-24 age cohort if the size of the adult learning population for occupational studies is small.)

Figure 6 provides a simple comparison of the three projection alternatives suggested: the primary projection methodology, the multiple projections alternative, and the manpower projection option. These suggestions serve different purposes, and are meant to complement, not supplant, each other. This figure may be compared with Figure 8 in the attached technical paper, which compares and contrasts a number of important national enrollment studies.

Attached is an annotated bibliography of data sources, enrollment projections, and population/economic forecasts that may be helpful in Georgia's enrollment studies efforts.

FIGURE 6

DESCRIPTION OF RECOMMENDED ENROLLMENT PROJECTION TECHNIQUES

Characteristics	Alternatives Recommended		
	Primary Recommended Projection (Figure 4)	Multiple Projections	Manpower Projection Option
Strategy	Trend extrapolation modified by educational judgment	Same	Same
Purpose	Educational data for general postsecondary planning	Same	Manpower data for identifying specific manpower needs
Underlying Assumptions	1. Extrapolation of genuine trends is most valid method. 2. Must deal with the traditional 18-21 and 22-24 cohorts as well as adult learners 25 and beyond. 3. Be flexible in choosing trends. Use cohort attendance ratios. ...Be especially aware of changing conditions.	Same Provide multiple projections reflecting multiple futures.	Same Focus on specific manpower needs in certain occupations. If possible, use cohort attendance ratios within each occupational grouping. If not, just project the manpower needs of each grouping.
Base Period	Use ten-year historical data. Select portion of that base period that yields the trend which applied to the future.	Same	Same
Projection Period	In one-year increments for ten years into the future. In five-year increments beyond that point.	Same	Same

FIGURE 6

Continued

Characteristics	Alternatives Recommended		
	Primary Recommended Projection (Figure 4)	Multiple Projections	Manpower Projection Option
Driving Factors	Attendance ratios of different cohort groups and population projections of the cohorts.	Same	Projected manpower needs of certain occupations
Multiple Projections	No	Yes	No

ANNOTATED BIBLIOGRAPHY

DATA SOURCES, ENROLLMENT PROJECTIONS, AND POPULATION/ECONOMIC FACTORS USEFUL IN GEORGIA ENROLLMENT STUDIES

DATA SOURCES

1. Georgia Department of Education, "Statistical Report, 1972-73". Available in the following year, this annual report describes the primary/secondary school enrollments in Georgia.

2. Office of Planning and Budget, "Commuting Patterns, 1970". This document describes how many people commute to and from different counties in the course of their work.

3. Office of Planning and Budget, "The State of the State". To be available later this year, this document will contain charts, figures, and narrative relating to transportation, education, and population in the State of Georgia.

4. U.S. Department of Commerce, U.S. Bureau of Census, General Characteristics of the Population, Report of the 1970 Census. Provides a census tract by census tract description of the characteristics of the population.

5. U.S. Department of Commerce, Bureau of the Census, School Enrollment in the United States, Current Population Reports Series P-20, Publication 261, Washington, D.C.: Government Printing Office.

   During the interval between the censuses, a number of sampling surveys are utilized to fill in data in intervening years. This report provides data on school enrollment of the population with categorizations according to age, race, sex, and other characteristics. The issue appears in March of each year, following a survey made in October of the previous calendar year.

6. U.S. Department of Health, Education, and Welfare, Office of Education, Higher Education General Information Survey, Opening Fall Enrollments in Higher Education, Washington, D.C.: Government Printing Office.

   Currently, the 1973-74 data are available--the lead time required to finalize this information is nearly two years, although spot data may be available on request. This survey is a valuable source of information on public and private institutions.

In addition to providing enrollment data on computer tapes, NCES has recently announced the availability of HEGIS-collected enrollment data through an online information access system titled EDSTAT. Data can be secured for all years in which HEGIS has been used and can be related to financial, institutional, and degree characteristics.

7. U.S. Department of Health, Education, and Welfare, Office of Education, Higher Education General Information Survey, Students Enrolled for Advanced Degrees, Washington, D.C.: Government Printing Office.

   This is more HEGIS information, and the same descriptions, in general, apply.

8. University System of Georgia, "Quarterly Enrollment Report". Each quarter the Georgia System collects a fairly complete bank of information that largely parallels the HEGIS information. This can be a handy source of timely "spot" data.

ENROLLMENT PROJECTIONS FOR GEORGIA

The following enrollment projections may be useful as benchmarks in future enrollment study activities.

1. C.L. Hohenstein & Associates, "Georgia Higher Education Enrollment Projection, 1970 Through 1980" (Reference Document #18), May 1, 1970.
2. C.L. Hohenstein & Associates, "Statement of Methodology for Refinement of Enrollment Projections" (Reference Document #20-A), July 23, 1970.
3. C.L. Hohenstein & Associates, "Conceptual Models and Projections for Georgia Higher Education, 1970 Through 1980" (Reference Document #20), October 15, 1970.
4. C.L. Hohenstein & Associates, "Interim Projections of Enrollment in Georgia Higher Education Institutions" (Reference Document #23), March 31, 1971.
5. C.L. Hohenstein & Associates, "Georgia Higher Education Enrollment Projections by Institutions, 1972 through 1985" (Reference Document #29), December 15, 1972.
6. C.L. Hohenstein & Associates, "Supplement to Georgia Higher Education Enrollment Projections, 1972 Through 1985" (Reference Document #31), March, 1973.

POPULATION/ECONOMIC STUDIES

1. Atlanta Regional Commission, Population and Economic Forecasts to the Year 2000, Atlanta Regional Commission Planning Area, October 1973.

   This is not a regularly repeated study. It is a good means of assessing the projected growth of Atlanta.

   Contains preliminary population projections, non-farm and salary employment projections, number of households, distribution of civilian non-farm wage and salary employment, distribution of families by income range, population by five-year groups, 1970 and 2000.

2. Atlanta Regional Commission, The Atlanta Region: Framework for the Future, Second Interim Status Report, ARC, December, 1974.

   Provides transportation alternatives for Atlanta metro area. These sorts of considerations have important implications for the future accessibility of institutions in the Atlanta area.

3. Atlanta Regional Commission, 1974 Population and Housing, ARC.

   Shows direction of population migration in Atlanta. Housing units.

4. Atlanta Regional Commission, Comparative Revenue Study of the Atlanta Metro Area, ARC.

   Shows property taxes, utility fees, business taxes, and license fees in the Atlanta metro area. Helpful potentially in determining future taxability of the citizens in the area.

5. U.S. Department of Commerce, Bureau of the Census, Current Population Reports: Population Estimates, Washington, D.C.: Government Printing Office. Estimates of the current population of Georgia counties. Available in October for population estimates for July of the previous calendar year.

6. U.S. Department of Commerce, Bureau of the Census, Projections of the Population of the United States by Age and Sex, 1972 to 2020, Washington, D.C.: Government Printing Office. Current Population Reports Series P-25.

   Available in December of each year. Provides national enrollment projection.

TECHNICAL REPORT: ENROLLMENT PROJECTION STUDIES

The Purpose of This Technical Appendix

For some time, the projection of future enrollments was a largely technical task that was given low priority in the educational community. However, the poor track record of recent enrollment projection techniques and concern in recent years over the redefinition of postsecondary education have led to an increased awareness of the importance of enrollment studies. Through the measurement and projection of the number of learners of which particular types will be engaging in postsecondary education in the future, we shape our way of looking at the future. Enrollment studies play an important role in that process. Educators have come to realize that enrollment studies involve important educational decisions and should not be abandoned to the technocrat or statistician.

The purpose of this brief technical report is to identify resource material and assist the layperson in becoming familiar with how to measure the predict enrollments. This activity requires, first of all, an understanding of the issues and problems confronting postsecondary education; only secondarily does it require a reasonable level of technical skill. Our bias is toward having enrollment studies formulated by individuals who understand educational issues and decision making, assisted by persons possessing technical competence. The following pages consist of two parts: (1) a discussion of enrollment study methodologies and (2) a presentation of some of the findings of recent national enrollment data, and how these may be useful to Georgia.

The Principles and Components of Enrollment Studies

It is a common error to assume that the crucial ingredient in enrollment studies is the projection/prediction technique. In actuality, the key basic ingredient in enrollment studies is the creative and comprehensive measurement of the characteristics that describe participation in postsecondary education. The best projection methodology falls apart in the absence of good data, or if the categories measured reflect obsolete concepts of participation in postsecondary education. Enrollment data must be disaggregated--which means stratified--to adequately describe different groups of learners. Until recently, measures of enrollments have failed to reflect the diversity of learners participating in postsecondary education. In the case of proprietary schools, we have not even measured total enrollment.

It is a truism of enrollment studies that at any point in time, many of the data categories desired are not available in the form requested or for all of the years wanted. Imperfect data must be used for current studies. One of the most important outcomes of enrollment studies is to refine our current definitions and data collection procedures so that future efforts will have the use of better data.

Once data is collected and is combined in projection models, there are three factors that determine the nature of the projection outcomes. The projection strategy is the particular methodology utilized in projecting enrollments. The objective of the projection is the intended use to be made of the outcomes. The underlying assumptions of the inputs and methodologies also influence the products. A more detailed discussion of these factors may be found in several of the references cited in the bibliography.[1]

The most common form of projection strategy is trend extrapolation, in which any of a number of analytical techniques are used to extend trends from a base-line period into the future.[2] In recent years, however, extrapolative techniques have been combined with alternative policy assumptions to create a series of alternate projections reflecting different policy alternatives. Also, futurist approaches have abandoned extrapolation in favor of creating scenarios of the future in which they base their prediction of future conditions. Thus, the forecaster has a wide variety of strategies available for his use.

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[1] Mangelson, Wayne, Donald Norris, Nick Poulton, and John Seeley, "National Enrollment Projection Studies", Planning for Higher Education, December 1974.

The objectives of the projection also influence its creation. The definitions used, assumptions made, types of output categories projected, and to some degree the methodology are all influenced by the objectives of the projection. These objectives may include manpower supply forecasts, development of demographic descriptions, or the creation of planning data. The underlying assumptions of each projection are largely determined by the strategy and purpose of a projection, but they must nevertheless be identified. Too often these assumptions are ignored by users of the projection outputs.

Table 1 in the previously cited "National Enrollment Projection Studies" by Mangelson, et al provides a detailed critique of a number of recent studies. Figure 7 is an updated descriptive analysis of three of the most important enrollment projections: U.S. Bureau of the Census, U.S. Office of Education, and Carnegie Commission.[3] While understanding the elements of these projections is important for a variety of reasons, their citation here is to emphasize that perpetrators of enrollment studies must clearly identify and justify the strategies, purposes, assumptions, and driving factors.

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[2] For an exhaustive, yet readable, discussion of different techniques, see Paul Wing, Higher Education Enrollment Forecasting: A Manual for State Level Agencies, NCHEMS, 1974.

[3] The updated version of this figure was prepared by Nick L. Poulton of the Office of Institutional Research at The University of Michigan.

FIGURE 7
DESCRIPTIVE ANALYSIS OF NATIONAL ENROLLMENT PROJECTIONS

Characteristics	U.S. Bureau of the Census	U.S. Office of Education	Carnegie Commission
Strategy	Trend Extrapolation	Trend Extrapolation	Trend Extrapolation
Purpose	Demographic projection for U.S. (long-term)	Education data for general planning (short-term)	Background data for recommendations and planning (long-term)
Underlying Assumptions	1) Increasing high school graduation and continuation-to-college rate 2) Constant 1969 school level distribution 3) Unchanging cohort enrollment pattern	1972: 1) Continuation of all past 10 year trend 2) 18-21 cohort is valid predictor of enrollments 3) Validity of 20 year span for projection (10 year base for 10 year projection) 1975: (1972 +) 1) 18 age cohort and first-time enrollment is valid base for total. 2) Validity of recent 1-3 year trend where 10 year trend fails.	1971: 1) Continuation of past population patterns and enrollment ratio trends 2) Adequate funding and increasing high school graduation rate and per capita income 1973: 1) Reduced continuations rates 2) Recommendations from Toward A Learning Society, 1973. 1975: 1) Various enrollment trends by student level, attendance, age, sex, etc. 2) Increasing white, male rates. 3) No draft 4) Increased student aid
Date Published	January, 1972	1972-1975	1971, 1973, 1975
Projection Period	1975-2000	10 year interval	to year 2000
Frequency	Single Study	Annual	Occasional
Driving Factors	14-34 population projection and enrollment rates by sex	1972: 1) 18-21 population projection (seriesD) 2) 18-21 enrollment ratio by sex 1975: (1972 +) 1) First-time enrollment to age 18 by sex.	1971: 1) 18-21 population projection (series D) 2) 18-21 enrollment ratios 1973: Population projection (series E) 1975: 1) Population projection (Series F) 2) Disaggregate enrollment rates.
Multiple Projections	YES (parameter changes)	1972 - No; 1975-yes, parameter changes)	Yes (policy/recommendation alternatives)
Projected Categories	1) Total degree-credit 2) Male-female 3) Age Groups (14-34)	1) Total enrollment 2) Degree/nondegree 3) Undergrad/graduate 4) Male/female 5) 2 year/4 year 6) Full-time/part-time 7) Public/private 8) FTE 9) First-time 10)Other	1) Total enrollment 2) Undergrad/graduate 3) Policy increments 1975: (above +) student level (by age)

Comparison of Recent National Enrollment Projections

Georgia is in an advantageous position to utilize national enrollment studies. Since educational developments in the state have lagged behind the nation as a whole by several years, Georgians can use national studies as leading indicators of what they may expect to encounter in the years ahead. Given the gloomy projections of future enrollments in certain segments of postsecondary education nationwide, this is a potentially valuable capability.

National enrollment projection studies have enjoyed varying degrees of success in predicting actual enrollments. As long as the five- to ten-year trends utilized by national projections have continued, their results have been fairly accurate. Given the ups and downs of American higher education over the past two decades, however, these projection studies have been wrong as often as they have been right. For example, the enrollment projections of the sixties, which were based on the enrollment trends of the fifties, consistently underestimated the actual enrollments during the period of great growth for educational institutions. On the other hand, the enrollment projections of the early seventies, which were based on the trends experienced during the growth years of the sixties, consistently overestimated actual enrollments nationwide.

The poor track record of enrollment projections in the past several years and plateauing enrollments in some institutions have led to a number of interesting modifications in enrollment projection. Many observers have come to realize the weaknesses of heavy reliance on pure trend extrapolation. Given events of the past several years, the U.S. Office of Education has modified its extrapolative techniques by abandoning the use of ten-year base period for extrapolation and by using the ratios and statistics for the most recent one to three years as a basis for trend extrapolation. In some cases, USOE has merely extended current attendance ratios into the future. Also reacting to perceived weaknesses in projection techniques and the uncertain condition of postsecondary education in the future, other projections have arisen that question the basic assumptions of previous predictors. For example, Stephen Dresch predicts a steady erosion of the economic returns of education and a significant decline in enrollments. Howard Bowen, an advocate of the Learning Society, predicts a huge increase in enrollment by the year 2000 as adult learners are drawn into the educational system. While one may argue with these assumptions, the point is that the educational community is being confronted with enrollment projections that depart from standard extrapolative techniques and that provide a variety of alternatives regarding the future of education. Projections have come to be recognized as an important policy tool and are receiving a great deal of scrutiny.

The following figures illustrate the variety in enrollment projections. Figure 8 is an updated version of the chart in the previously cited "National Enrollment Projection Studies". It demonstrates the variability in projections caused by different assumptions, methodologies, and definitions. The general shape of many of these projections is similar, however. The shape reflects the belief that total enrollments nationwide will experience a plateauing or decline in the 1980's, as the growth in the number of younger learners declines, but will increase again in the 1990's. The prediction that the 1980's could witness a decline in enrollments caused a great furor that contributed to the appearance of "alternative" projections cited earlier. Figure 9 illustrates some of these alternatives; the variability in their projections is striking.

Attached is an annotated bibliography of the key readings on the concepts and methodologies of enrollment projections, and a bibliography of important enrollment projections.

Figure 8

PROJECTIONS OF TOTAL ENROLLMENTS

1965 - 2000

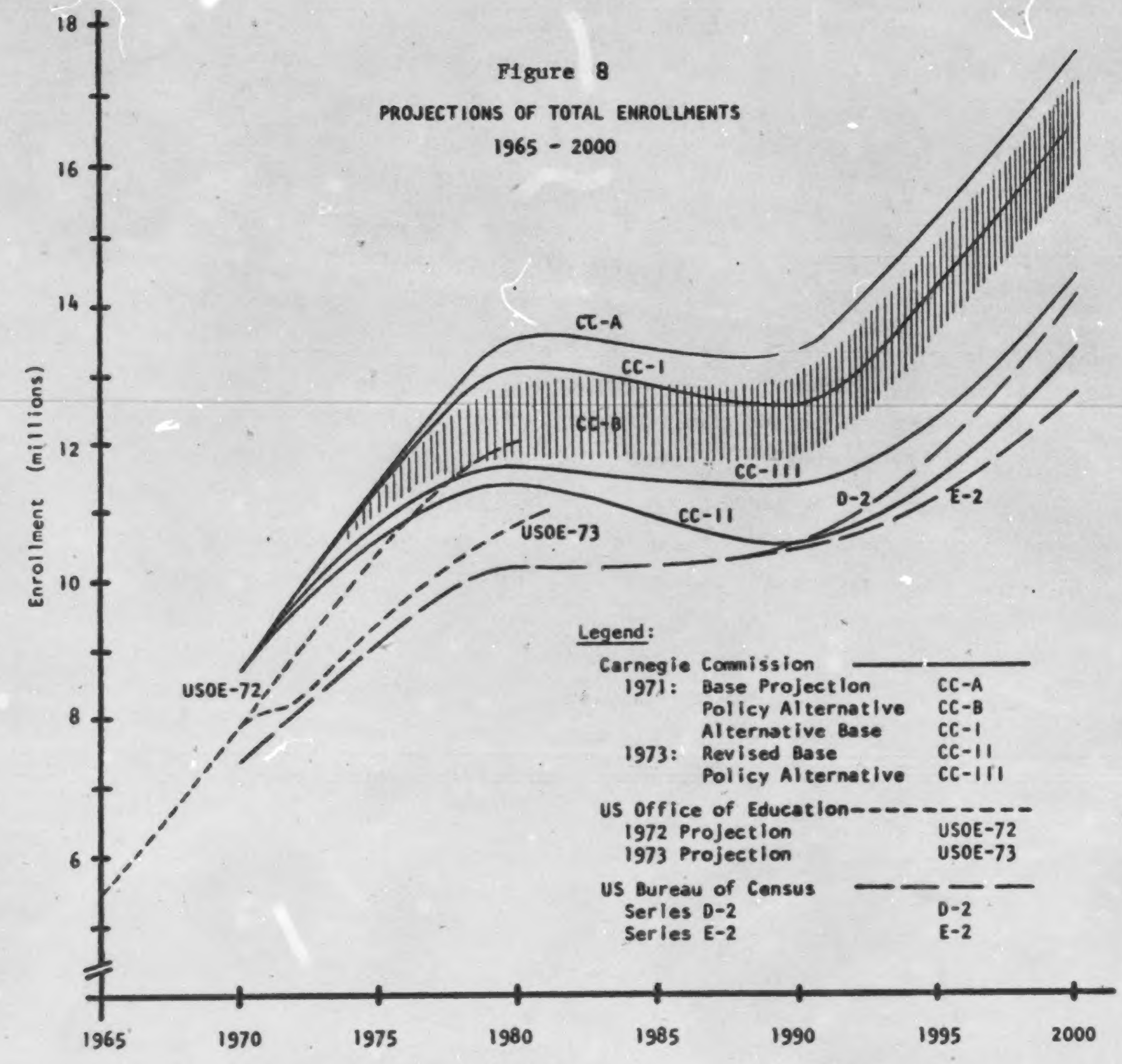
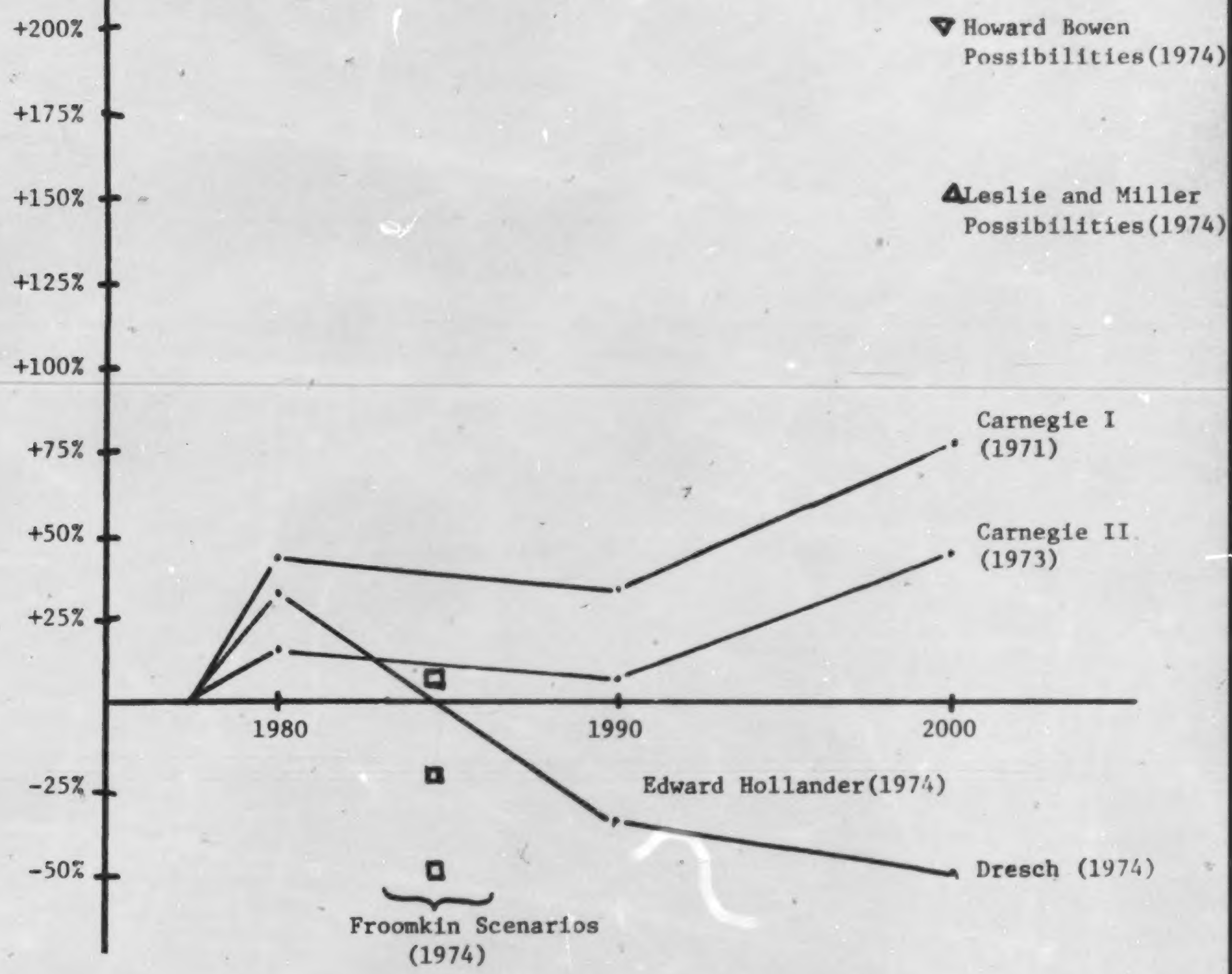


Figure 9

COMPARISON BETWEEN ENROLLMENT PROJECTIONS AND POSSIBILITIES AND THE 1974 LEVEL OF ENROLLMENT (COMPARISON IN PERCENTAGES)



For a more detailed discussion of the above projections, the reader should examine More Than Survival, by the Carnegie Foundation for the Advancement of Teaching, San Francisco:Jossey-Bass, 1975, pp.39-49, 141-147.

he above graph is a slightly different and more graphic of the work ound in More Than Survival.

The enrollments projected on the basis of Howard Bowen's and Leslie and Miller's assumptions about the future assume the development of the so-called "learning Society" and the expenditure of an ever growing share of the GNP on postsecondary learning.

ANNOTATED BIBLIOGRAPHY

SUGGESTED READINGS ON THE CONCEPTION OF ENROLLMENT PROJECTIONS AND ALTERNATIVE METHODOLOGIES

Carnegie Commission on Higher Education, *Priorities for Action: Final Report of the Carnegie Commission on Higher Education*, New York: McGraw-Hill, 1973 (See Technical Note A).

This reference is of interest because it demonstrates some of the ways in which the Carnegie Commission has modified its enrollment projections to suit its changing conception of what postsecondary education would/should be like.

Carnegie Commission on Higher Education, *More Than Survival*, San Francisco: Jossey-Bass, 1975.

This reference is a must. In discussing the adaptation of postsecondary education to the current period of selective growth and retrenchment, enrollment analysis and alternative projection strategies play key roles. Although some of the approaches utilized are simplistic, they demonstrate the growing conviction that enrollment studies must seek new approaches.

Folger, John K., "On Enrollment Projections: Clearing Up The Crystal Ball", *Journal of Higher Education*, Vol. XLV, No. 6, June 1974.

This brief, concise article discusses the special importance of enrollment projections and what enrollment studies must achieve in the coming years. This is a handy article for the layperson.

Mangelson, Wayne L., Donald M. Norris, Nick L. Poulton, and John A. Seeley, *Projecting College and University Enrollments: Analyzing the Past and Focusing the Future*, The University of Michigan: Center for the Study of Higher Education, January 1974.

This monograph provides a critique/analysis of existing projection methodologies and a conceptualization of what future enrollment studies should contain. It includes a fairly extensive bibliography of data sources and references pertaining to forecasting and futurism.

Norris, Donald M., Nick L. Poulton, and John A. Seeley, "National Enrollment Projection Studies", *Planning for Higher Education*, Society of College and University Planners, Vol. 3, No. 6, December 1974.

This article is an updated comparison of existing projection studies. It is more concise than the preceding monograph and contains highly useable visual displays.

Wing, Paul, Higher Education Enrollment Forecasting: A Manual for State-Level Agencies, National Center for Higher Education Management Systems, 1974.

This excellent monograph furnishes a discussion of projection techniques that even the layperson can use. An excellent bibliography is also provided.

THE POSTSECONDARY EDUCATION ACCESSIBILITY STUDY

In his letter of May 19, 1975, Dr. Robert J. Leonard, Executive Director of GPEC, stated the purpose of the accessibility study as being the identification of measures of how accessible Georgia's postsecondary institutions are to various population groups within the state. The sections that follow represent an attempt to provide GPEC with such measures. Section I identifies and discusses factors which influence accessibility. Planning and policy considerations inherent in the examination of certain of the factors are discussed. Section 2 reports findings for Georgia from earlier accessibilities studies. Selected indices of accessibility are compared for Georgia and other states. Section 3 outlines the consultants' recommendations on the procedures to be followed by GPEC in conducting the accessibility study. Data elements, data sources, and analytical procedures are identified and discussed.

SECTION 1: FACTORS AFFECTING POSTSECONDARY EDUCATION ACCESSIBILITY

The principal objective of accessibility studies is to determine the extent to which the postsecondary education population is representative of the population in general and/or the population which a specific institution is intended to serve. The accessibility of a postsecondary institution or system is largely determined by the fit between it and its potential students on five types of factors: social, economic, admissions, geographic, and motivational. Obviously all or none of these factors may constitute barriers to postsecondary attendance for some students.

The paragraphs that follow discuss specific factors comprising each of the five factor types in order to identify the various data elements which must be gathered in order to effectively describe the institutional and general populations. Since the GPEC accessibility study will contribute to the Commission's policy recommendations contained in the master plan, considerable space is also devoted to planning considerations which are likely to arise as a result of building certain factors into an accessibility study.

Social Factors

Social factors affecting accessibility include the race, sex, and religion of the potential applicant and admissions policies and practices of institutions relative to those factors. Race and sex are the two factors GPEC has stated an interest in examining in the accessibility study, presumably due to the probability that racial minorities and women have been underrepresented among postsecondary enrollments in Georgia institutions. The existence until recently of functionally segregated public institutions for blacks and whites of course supports the need for examining the racial aspect of accessibility in Georgia. At the same time, it surfaces a policy consideration which is applicable as well to the factors of sex and religion.

Race, sex, and religion are factors affecting student access to programs and institutions having a traditional clientele with characteristics different than those of the applicant. Consequently, in spite of adopting nondiscriminatory practices, institutions with traditional clientele will continue, for a time, to be viewed as, and in fact be, inaccessible to certain sections of the population. Consequently, an examination of the admissions policies or practices of an institution by race, sex, religion, and age can be misleading for state-level policy makers who are unfamiliar with the history and/or popular "image" of an institution. Institutions may fail to attract blacks, whites, women, men, Catholics or Protestants because of its image rather than because it purposely excludes these groups. At the same time, an institution which appears accessible due to its location, tuition, and admissions practices may be inaccessible due to its image may not constitute a viable sole source of postsecondary education or a specific type of preparation for all area or state residents.[1] The issue for planners of course becomes one of deciding whether or not the existence of an institution, constitutes access when certain groups of population will not attend the school.

Age functions as a barrier to postsecondary education in a variety of sanctioned ways. State and federal regulations as well as tradition stipulate the minimum and, frequently, the maximum ages for licensure in certain fields, e.g., barber, physician, commercial pilot. Institutions usually do not admit persons who, because of their ages, will be ineligible for such licensure upon completion of their studies. There is limited value in examining this dimension of access unless GPEC wishes to identify institutions which do particularly good or poor jobs of attracting people in certain age groups. Such knowledge could be of value in identifying programs that are particularly accessible to the older learners (Georgia's traditionally low college attendance rates suggest that many academically eligible persons have not attended college and now constitute a major underdeveloped resource).

Economic Factors

Concern over economic access to postsecondary education has led to a number of fairly significant studies of the role of student resources in determining postsecondary enrollment.

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[1] The image of an institution is rarely considered by state planners but functions as a major factor affecting student choice. In that vein, the image of the proprietary school as an inferior alternative to collegiate programs also must be recognized. In spite of offering programs in the same fields as collegiate institutions, the popular belief that the schools enroll less capable and less sophisticated students will prevent many potential students from enrolling in their programs.

One of the most prestigious of such efforts, that of the National Commission on the Financing of Postsecondary Education,[2] used family income as an index of student resources measurement. Using data presented by that group, Table 1 shows that students with family incomes below $10,000 are underrepresented in postsecondary education. While over one-half of the 18 to 24-year-olds come from families with incomes under $10,000, they constitute only one-third of all postsecondary enrollments.

It should be noted here that recent efforts to develop models that predict postsecondary enrollment levels given differing levels of student financial assistance are extremely controversial. GPEC's use of any one of the models to examine facets of economic assessibility seems likely to result in counter-productive criticism from one or another sector of postsecondary education.

Family income affects access to different types of institutions differentially. While data for various different types of institutions even more graphical show the differences, Table 2 shows that considerable differences exist in the economic accessibility of collegiate and noncollegiate institutions. The noncollegiate sector consists of the most accessible group of institutions followed by two-year public colleges, four-year public institutions, two-year private colleges, and finally four-year private institutions.

Although family income is the most widely accepted index of student resources, numerous other indices are conceptually desirable. The National Center for Higher Education Management Systems (NCHEMS) lists two indices that should compliment family income as indices of student resources: Total Personal Income and Disposable Personal Income (a third index, Personal Consumption Expenditures lacks adequate data sources to be of value

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[2] National Commission on the Financing of Postsecondary Education. Financing Postsecondary Education in the United States. (Washington, D.C.: U.S. Government Printing Office, 1973).

TABLE 1: PERCENTAGE DISTRIBUTION OF 18-24-YEAR-OLD POPULATION AND POSTSECONDARY UNDERGRADUATE ENROLLMENT BY INCOME, 1972-73

Income Group	18-24 Age Group	Postsecondary Education
Under $3,000...	8.6%	4.0%
$3,000 to $5,999...	14.4	11.7
$6,000 to $7,499...	16.7	6.0
$7,500 to $9,999...	15.9	12.7
$10,000 to $14,999...	25.2	27.4
$15,000 to $24,999...	12.7	24.6
$25,000 and above ...	6.5	13.6
Total	100.0%	100.0%
Under $6,000	23.0%	15.7%
$6,000 to $9,999	32.6	18.7
Over $10,000	44.4	65.6
Total	100.0%	100.0%

SOURCE: National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States (December 1973), Table 4-1, p. 136 and Table B-1, p. 401.

TABLE 2: INCOME DISTRIBUTION OF STUDENTS BY INSTITUTIONAL TYPE, 1972-73

Income Group	Noncollegiate Sector	Public Undergraduate Two Year	Public Undergraduate Four Year	Private Undergraduate Two Year	Private Undergraduate Four Year
Under $3,000	5.6%	4.5%	4.0%	5.6%	4.0%
$3,000 to $5,999	15.0	13.2	12.7	4.2	9.1
$6,000 to $7,499	9.4	8.6	6.2	9.7	5.4
$7,500 to $9,999	15.8	13.6	13.6	13.9	10.5
$10,000 to $14,999	30.3	33.3	27.4	31.9	27.6
$15,000 to $24,999	18.7	20.0	24.0	19.4	26.1
$25,000 and above	5.2	6.8	12.1	15.3	17.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Under $6,000	20.6%	17.7%	16.7%	9.8%	13.1%
$6,000 to $9,999	25.2	22.2	19.8	23.6	15.9
Over $10,000	54.2	60.1	63.5	66.6	71.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%

SOURCE: National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States (December 1973), Table 4-1, p. 136 and Table B-1, p. 401.

in the GPEC study).[3] The obvious value of the two additional indices is that they define the 18 to 24-year-old's resources independent of parental or family income and thus may provide a more accurate estimate of many students' real resources for postsecondary education.

The economic indices just discussed can more than adequately describe the population to be served by postsecondary institutions. Unfortunately, the same factors cannot readily be used to describe institutional or system populations. Data are not presently available for Georgia institutions on college enrollment by family or personal income levels. Therefore, the economic characteristics of institutional populations must be described using less perfect measures. System (as opposed to institutional) student resources characteristics can be shown using the level of education attained by residents having differing income levels. A second useful though imperfect index is available for individual institutions: the number of students applying for financial assistance. The American College Testing Program (ACT) provides institutions with reports describing among other things, the income levels of students who applied for financial aid.[4] Obviously, the data contained in those reports will be skewed toward lower-income students and are affected by such variables as the aggressiveness of institutional financial aids officers. Nevertheless, the data can be of some value. Similar types of data are available from state sources which administer student financial assistance programs.

In addition to student resources, accessibility is affected by the level of institutional tuition and fees. Institutional charges were, in fact, the sole index of financial access used by Warren Willingham in his well-known national study, Free-Access

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[3] Katherine A. Allman. A Reference Guide to Postsecondary Education Data Sources. (Boulder, Colorado: National Center for Higher Education Management Systems, 1974).

[4] Ibid, Sec. 2, Source 8.

Higher Education.[5] NCHEMS has identified two additional indices of the financial demands placed on students by institutions: Average Out-of-Pocket Cost to Students and Average Cost of Foregone Income to Students. While both measures are desirable, reliable data are not available from the sources identified by NCHEMS.[6]

Before turning to an examination of admissions access, one GPEC policy consideration should be noted. The findings of financial accessibility studies are typically used to argue for decreasing institutional fees while increasing the financial resources of the poor through financial aid programs. Such programs unquestionably will increase access for a significant proportion of the otherwise eligible students. However, because they manipulate student resources at eighteen, they inevitably fail to overcome the cumulative effects of many students' lifelong lack of resources. Motivation, values, and attitudes as well as parental and peer group influence are of course all affected by the students' socioeconomic circumstances. In short, increasing student resources through student aid or low tuition may be, in the long run, less important in increasing accessibility than such indirect steps as decreasing taxes, providing full employment, and increasing the resources of public elementary and secondary school programs. These steps, in a period of leveling state revenues, will inevitably intensify the competition among state programs for state funds. In a period of such competition, it seems important for GPEC to recognize that, insofar as increasing accessibility is concerned, a reduction of higher education's share of the tax dollar *may actually increase* accessibility in the long-range if the other factors mentioned above receive greater attention.

GPEC's role, relative to access, might thus come to include the monitoring of factors affecting both short-range accessibility, i.e., institutional charges, family income, geographic proximity, etc., and long-range determinants of accessibility, i.e., the retention rate of public schools, student achievement indices, and the family income levels of students in the public school systems. GPEC may wish to begin monitoring the indices of future accessibility and providing its findings to both the higher education community and state government decision makers.

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[5] Willingham defined free-access institutions as those admitting at least one-third of its freshmen from the bottom half of their high school class and charging no more than $400 in annual tuition and fees.

[6] Allman. *A Reference Guide*, measures 2310 and 2320.

Motivational Factors Affecting Access

Motivational factors affecting college attendance are complex and numerous. Unlike such other factors as peer group influence, certain parental characteristics affecting student motivation are measurable. Parental education, occupation, and socioeconomic status are among the factors most frequently cited as contributing to the student's motivation for attending college. Just as these variables are useful in forecasting probable and potential enrollment levels, they can be of value in accessibility studies in that they identify constraints to access that are, in the short-run, beyond the control of educators and legislators. Since these factors are likely to vary according to the types of communities served by institutions, their measurement is essential to the accurate and realistic evaluations of the extent to which institutions are accessible.

One obvious factor which motivates students to attend postsecondary institutions is their prospects for increasing their employability by acquiring additional education or training. At the same time, student familiarity with the actual work performed by persons in a given occupation is likely to influence their decision to enter that occupation. Therefore, the presence or absence of occupational opportunities and practitioners in the community will influence many students' decisions to attend college.

Admissions Accessibility

There are numerous relatively reliable indices of institutional selectivity. Willingham and NCHEMS both recommend the use of the percentage of applicants accepted for admission as a measure of selectivity.[7] They did not use the percentage because they believed the data to be unavailable. While the percentage is available for nearly all collegiate institutions (in The College Bluebook, U.S. Colleges: Tabular Data), its use can be misleading. Due to a number of factors including the student's knowledge of the institution's admissions practices, its costs, and traditional clientele, applicants to any single institution do not represent a true cross section of all potential postsecondary students.

Perhaps the most acceptable index, high school graduating class rank, is used by Willingham as his primary criterion for evaluating institutional selectivity. Using national college directories, he examined the percentage of each institution's freshmen class that ranked in the top-half of their high school graduating class. Where percentages were not available, he used college catalog statements of admissions policies as a secondary criterion.

An additional index of selectivity is the average SAT test score for admitted freshmen. However, the apparent trend away from using the test at less selective institutions argues for using the scores as, at best, a secondary criterion for selectivity.

Geographic Access

The proximity of institutions to potential students has an obvious effect on accessibility. The early work of Koos graphically demonstrated the impact of proximity on college attendance.

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[7] Ibid, measure 2050 and Willingham, Free-Access Higher Education. p. 14

Koos found that 44 percent of the graduates of local high schools entered the local junior college but that the percentage dropped to 12 percent for students from schools just 7 to 15 miles away.[8]

Recent studies show that nearly three-fourths of all community college students live within 10 miles of their college and within thirty minutes commuting time of their institutions. Studies focusing principally on urban institutions suggest that the proximity radius is even smaller in large cities.[9] One study showed that 60 percent of an urban community college's students lived within 2-1/2 miles of the college, and that students within one mile were three times as likely to enroll as were students who lived 2-1/2 miles from the institution.[10]

In his review of accessibility studies, Willingham reports that definitions of reasonable proximity vary in state master plans (See pp.16-17) Illinois assumes 30 minutes and New York uses 60 minutes as reasonable commuting time. Confronted with the varying commuting radii given by the studies and assumed by the master plans, Willingham assumed a "compromise" travel time of 45 minutes would not defer sufficiently motivated students from enrolling in an institution. Using that time as a maximum, he calculated commuting distances which could be traveled. As Table 3 shows, Willingham's estimates of commuting distance decrease markedly as population density increases. In justifying the use of his estimates, Willingham observed that the ideal approach to determining commuting distances would involve detailed studies of housing and transportation patterns around each institution. Such an approach is appropriate for single institution studies, but unpracticeable when a large number of institutions are involved.

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[8] Willingham, Free-Access Higher Education, page 16.

[9] Ibid, 17

[10] Ibid, 17

TABLE 3: COMMUTING DISTANCES ASSUMED FOR AREAS OF DIFFERENT POPULATION DENSITY

Type of Area (population)	One-way Commuting Mileage
Rural area and town, less than 10,000	25
Town, 10,000 to 49,999	20
Metropolitan area, 50,000 to 249,999	15
Metropolitan area, 250,000 to 499,999	10
Metropolitan area, 500,000 to 1,000,000	5
Suburban area, metropolitan area more than 1 million	5
Large central city, metropolitan area more than 1 million	2½

SOURCE: Willingham, Warren W., Free-access Higher Education, (College Entrance Board: New York), 1970, Table 4, p. 17.

SECTION 2: SELECTED DATA ON ACCESSIBILITY IN GEORGIA

Willingham's findings on the accessibility of higher education in Georgia appear to be the lone study of its kind on the state. Appendix A of this report consists of copies of Willingham's three page analysis of accessibility in Georgia and preclude an in depth discussion here. However, Georgia's rank among the states of the region and of the nation as determined by Willingham is of some interest. Table 4 presents Willingham's findings on selected southern states. As the table shows, the percentage of Georgia residents living within commuting distance of a free-access college is well below that of the eight other states in the region, just 30 percent compared to the next lowest figure of 41 percent for Tennessee. Both white and black populations in Georgia find higher education less accessible than in the other states of the region. Moreover, Georgia ranks fortieth among the fifty states for this measure.

Table 4 also shows a list of states that have been identified as comparable in their organization and emphasis on higher education.[11] Among the seven states with similar systems of higher education, Georgia ranks fifth in its percentage of total students within commuting distance of a free-access college. However, where black students are concerned, Georgia and Minnesota are tied for last among the group.

Willingham also presents data on the different population groups within commuting distance of a free-access college in metropolitan areas of one million or more. The data show that for Atlanta as a metropolitan area, 25 percent of its students are within commuting distance of a free-access college (29 percent of all whites and 9 percent of all blacks). That percentage decreases to just 13 percent when fringe areas around Atlanta are

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[11] The procedure used to identify states with organizational similarities to the Georgia system of higher education is that presented by Kent Halstead in State Planning for Higher Education, pp. 47-51. Halstead's procedure is described in a subsequent report.

TABLE 4: PERCENTAGE OF STATE POPULATIONS WITHIN COMMUTING DISTANCE OF A FREE-ACCESS COLLEGE

States	Percent Within Commuting Distance Total	 White	 Black
Reginal Grouping			
Alabama	56	57	54
Florida	64	62	72
GEORGIA	30	33	24
Kentucky	52	51	69
Mississippi	63	67	63
North Carolina	68	69	67
South Carolina	56	58	53
Tennessee	41	39	52
Virginia	50	52	40
Average	54	54	55
Comparable Grouping			
Alabama	56	57	54
Colorado	42	41	58
GEORGIA	30	33	24
Kansas	43	42	59
Minnesota	29	30	24
North Carolina	68	69	67
Pennsylvania	25	24	41
Average	42	42	47

SOURCE: Willingham, Warren W., Free-access Higher Education (College Entrance Board: New York), 1970, Table A, pp. 195-96

TABLE 5: COLLEGE ENROLLMENT AS A PERCENTAGE OF HIGH SCHOOL GRADUATES AND AGE COHORT GROUPS

States	First Time College Enrollment as a Percent of High School Graduates	Percent of 18-19 Year Olds Enrolled
Regional Grouping		
Alabama	47	55
Florida	65	54
GEORGIA	41	47
Kentucky	49	45
Mississippi	64	55
North Carolina	41	50
South Carolina	39	48
Tennessee	46	49
Virginia	47	34
Average	49	51
Comparable Grouping		
Alabama	47	55
Colorado	61	60
GEORGIA	41	47
Kansas	64	61
Minnesota	52	63
North Carolina	41	50
Pennsylvania	43	55
Average	50	56

SOURCES: Halstead, Kent D., State Planning in Higher Education, pp. 76-77 and NCES, Digest of Educational Statistics, 1972, p. 9.

excluded from consideration (18 percent white and 4 percent black). Only Cincinnati and Patterson of the twenty-nine cities have lower percentages for their urban areas.

While Willingham's study appears to provide the best single source of accessibility data on Georgia, various other publications present useful indices of postsecondary attendance rates in Georgia. As an example, the National Center for Educational Statistics (NCES) reports Georgia enrollment by age cohort groups in its Digest on Educational Statistics. First-time college enrollment as a percentage of high school graduates in the state are given in NCES's periodic reports, Residence and Migration of College Students.

Using the regional and comparable state groupings presented in Table 4, Table 5 shows college attendance rates for the two indices just discussed. The data show that, of the nine southern states, only in South Carolina do fewer high school graduates enroll in higher education than for Georgia and only in Kentucky are fewer college age students enrolled in college. While Georgia ranks well below the regional means for the two indices, it ranks even lower among a group of states with comparable organizational characteristics.

This brief review of the data given for various indices of accessibility graphically illustrates both the need for improving access in Georgia and the kinds of data that can be used to convince decision makers of that need.

SECTION 3: ACCESSIBILITY METHODOLOGIES RECOMMENDED FOR GPEC USE

The consultants recommend that GPEC conduct two essentially independent studies of accessibility in Georgia. The first study would have as its principal objective the measurement of changes in the accessibility of higher education that have occurred since 1970. The study would be little more than a replication of the Willingham study and could be completed relatively quickly and easily. Institutional access would be of

TABLE 6

ACCESSIBILITY FACTORS EXAMINED IN THE TWO STUDIES

Type of Factor	Study 1	Study 2
Social		
Race	Yes	Yes
Sex	No	Yes
Religion	No	No
Age	No	Yes
Motivational		
Parental influences		
Education	No	Yes
Occupation	No	Yes
Occupational prospects		
Population by Occupation	No	Yes
by Program	No	Yes
Economic		
Student		
Family income distr.	No	Yes
Financial aid	No	Yes
Fees and tuition	Yes	Yes
Institution		
Fees and tuition	Yes	Yes
Fees and tuition (by program)	No	Yes
Admissions		
Fr. class high school rank	Yes	Yes
Admissions policy	Yes	Yes
Test scores	No	No
by program	No	Yes
Geographic		
Commuting distance	Yes	Yes
Area population	Yes	Yes

less concern in the study than the availability of system access in the state. The second study would consist of a thorough analysis of access for each of the institutions in Georgia. Programs would be identified and their accessibility measured. This approach would be relatively time consuming and should follow the first approach in order to take advantage of staff insights gained through the initial data. The time frame for completion of the two studies is estimated at between 80 and 200 staff person hours. Additional expense to GPEC would be dependent upon the amount of computer time desired to reduce staff time. (See Table 6 for a comparison of the types of factors examined in the two recommended procedures.)

Study 1

As suggested above, this first approach is essentially an historical approach to measuring accessibility. Since 1970 when Georgia ranked extremely low in the percentage of its population residing within commuting distance of free-access institutions, the University System of Georgia and the Georgia Department of Education have established several new institutions in order to increase access. The extent to which those new institutions and operational reforms by existing institutions have increased access should be a primary concern of GPEC and its constituencies.

Replication of the Willingham study using more recent data will identify such changes. Moreover, use of the Willingham procedure at this point in time will enable GPEC to conduct follow-up studies in future years. Changes from 1970 to 1975 to 1980 could be demonstrated--a feature lost by adopting a new procedure in 1975. There are, however, several disadvantages or limitations inherent in the approach that should be recognized from the outset.

1. Since the original study was of the collegiate sector only, the procedure can be used only for higher edu-

cation, not for all postsecondary education. Since the second approach overcomes this limitation and because the vast majority of Georgia students enroll in collegiate institutions, this limitation is not serious.

2. Georgia's system of area vocational-technical schools, a system that has been expanded in order to provide access, should be eliminated from consideration. Although the consultants view the system as offering programs of a postsecondary nature, the Department of Education may have to be taken at its word that the schools offer secondary level courses. In any event, the absence of a comprehensive program at the schools, i.e., one that offers liberal arts and general education components, argues that the institutions are not accessible to the majority of students within a geographic region.

One alternative to replicating the Willingham study merits discussion. By using both 1970 and 1975 data in the second more comprehensive study, historical changes in accessibility could be assessed, perhaps even more effectively, than through replication of the Willingham study. However, such a procedure would involve much more data collection and manipulation than would the first approach. The detailed information that would have to be collected and analyzed for 1970 enrollment by program would be extremely difficult to obtain and of very limited practical use. One final disadvantage of the approach is that its findings may be a variance with the findings of the well-known and widely accepted studies.

Procedure for Replicating the Willingham Study

The Willingham study can be replicated using data for more recent years (1974 data are more readily available at this time than 1975 data) by following the steps outlined below. Willingham's own description of the procedures, findings, and overall impressions should also be consulted.

Identification and Classification of Institutions

Step 1. Identify all Georgia institutions of higher education that enroll freshmen. Institutions that exclude freshmen are eliminated from further consideration since they are inaccessible to freshmen. Since Willingham found just 220 such institutions in the nation, Georgia should have no more than three or four. The sources of information to be used should include the HEGIS data, college catalogs, or one of the major national college directories.

Step 2. Record the mailing address of each accessible institution identified above. The GPEC mailing list will undoubtedly suffice for use.

Step 3. Classify all accessible institutions as one of the following: two-year public institution, four-year public institution, branch campus of public institution, two-year private institution, four-year private institution. The source for these data is Appendix C of the GPEC report, A State Looks to the Future.

Step 4. Record the annual (two-semester or three-quarter) tuition and fee charges of all accessible institutions. Where tuition and fees vary according to program within the institution, a mean charge should be computed. The sources of these data include national directories and college catalogs, the latter being less convenient to use but more up-to-date.

Step 5. Record the percentage of each college's freshman class that ranked in the top one-half of their high school class.

The sources of these data are again the national college directories. For those institutions for which these data cannot be found, consult their catalog statements of admissions policies.

Step 6. Assign each accessible institutions to one of the five selectivity categories shown in Table 7. Institutions will thus be classified as (1) open door, (2) nonselective, (3) selective, (4) very selective, or (5) most selective. Where the financial and admissions criterion are on different levels, the institution should be classified according to the more selective of the two measures, e.g., an institution with 40 percent of its freshmen class ranking in the top one-half of their graduating class, but charging $600 annual tuition would be classified as selective.

Estimating Geographic Accessibility

Step 7. Plot the location of each accessible institution on large, scaled maps. Willingham plotted only those institutions to which he assigned accessibility scores of 1 or 2. However, GPEC may find it useful to measure the geographic accessibility of all Georgia institutions. In that case, separate maps may be used for levels 1 and 2; for levels 3 to 5; or for levels 1 and 2, 3, 4, and 5. The maps used should be precisely scaled and may be the official state map, a state census tract map, or any other map showing governmental and/or census tract boundaries.

Atlanta institutions should be plotted on a separate city map. Suburban and rural institutions should be plotted as closely as possible to their locations relative to nearby cities and towns. However, minor errors in plotting their locations will prove relatively inconsequencial.

TABLE 7

Criteria for Selectivity Classification of Institutions

Selectivity Score	Financial Criterion	Admissions Criteria	
	Annual Tuition & Fees	% in Top 1/2 of H.S. class	Admissions Policy
1. Open Door	Free to $192	0 to 49%	Accept all high school graduates
2. Nonselective	$193 to $480	50 to 69%	Accepts Top 75% C Average
3. Selective	$481 to $960	70 to 84%	Accepts top 50% C+ Average
4. Very Selective	$961 to $1920	85 to 94%	Accepts top third B Average
5. Most Selective	$1920+	95%+	Very competitive

SOURCE: Willimgham, Warren W., Free-Access Higher Education. (College Entrance Board: New York), pp. 13-14.

NOTE: Willimgham's financial criterion has been modified to represent the effects of inflation on student tuition charges. Willingham's fee totals of 1970 were, inflated by twenty percent in the above table while this rate may seem low given annual double-digit inflation, institutional charges have not kept pace with inflation. The specific rate of twenty percent is derived from G. Richard Wynn's study, "Inflation in the Higher Education Industry". NACUBO Professional File, Volume 6, No. 1, January 1975.

Step 8. Record the population of the central city, metropolitan, suburban, town, or rural area in which the institution is located. The sources of these data include area planning commission documents that give updated census information, Bureau of Budget and Planning population estimates, and population figures given on the back of the official state map.

Step 9. Using the one-way commuting mileage given in Table 3 of this report, describe a circle with the accessible institution at the loci. Institutions located on the edge of two different types of population areas will necessitate the use of two archs rather than a single circle. These circles constitute "proximity limits" for each institution.

Estimating the Population Served by an Institution

Step 10. Using census tract, city, county, or other population figures, estimate the total number of people living within the proximity limits of each institution. Obviously, proximity limits cut across some census tracts and/or governmental unit boundaries. Estimates of the portion of the tract or unit included within the boundaries will therefore have to be computed. It should be noted that since the principal purpose of this study is to determine the overall accessibility of Georgia institutions, not single institutions, over estimates will tend to be balanced by underestimates, therefore, resulting in fairly accurate overall totals.

The course of these data should be the same as that used in Step 8.

Step 11. Using census information, determine the racial composition within each of the institutional proximity limits.

Displaying the Data

Step 12. Record the population of all individual counties and metropolitan areas (cities and towns) and aggregate those population areas by community types. The community types to be used and the display approach are shown in Table 2 of Appendix A. The percentage of the population within commuting distance of free-access institutions and less accessible institutions can thus be computed and aggregated by type of college and type of community as shown in Tables 1 and 2 of Appendix A. The cummulative percentage of the state population with commuting distance of free-access (and less accessible) institutions should then be computed. (Adjustments must, of course, be made for over-lapping institutional proximity limits.) Percentages may also be computed for planning regions, legislative districts, etc.

Analysis of the Data

Obviously the findings of the study should be compared to the findings of Willingham's study. Changes in the percentage of populations within commuting distance of a free-access institution should be noted and attempts should be made to determine why that percentage changed. Of principal concern, however, is analysis of why some areas of the state do not have access to a free-access institution, how access could be provided, and the relative costs and benefits of increasing access in each region.

The results of the study should be displayed and discussed in the state master plan. Display of the state map with proximity limits shown on it should create a rather powerful visual demonstration of access.

Study 2

Study 2 is conceptually more complete than Study 1, but does not represent the best possible approach to examining accessibility. A more thorough study would, however, require considerable data collection by GPEC. Such a study would collect current enrollment data by county of student residence, program, and student occupational preference. Nevertheless, completion of Study 2 will result in the production of an accessibility study that is at least as comprehensive as those done in other states.

Procedures for Conducting the Postsecondary-Access Study

Step 1. Repeat steps 1 and 2 of Study 1 to identify the names and locations of all postsecondary institutions in Georgia. The proprietary school study, the Georgia Educational Improvement Council's Directory 1974-75, Office of Adult and Vocational Education's Now What? Vocational Technical Education, and Study 1 findings constitute the data sources.

Step 2. Classify institutions not classified in step 3 of Study 1 as private occupational schools or technical vocational institute. The source for those data is Appendix C of the GPEC report, A State Looks to the Future.

Step 3. Using the procedure outlined in detail in the consultants' "Program Duplication Report", identify all programs offered in all postsecondary institutions.

Step 4. Record the annual (two-semester or three-quarter) tuition and fee charges of all postsecondary institutions. Private occupational schools typically list tuition fees and charges for the entire program. Therefore, next to their charges the program length in weeks should be recorded. The sources of these data are those listed in step 1 above.

Step 5. Record the admissions policy of each postsecondary institution. Except in very rare cases, high school graduation is sufficient for entry into private occupational schools, although some do require students to pass legitimate aptitude and achievement tests. Where special requirements exist for specific programs, record those programs and their requirements. (This step will necessitate a thorough review of the college catalogs used in Study 1.)

Step 6. Classify each accessible institution according to its selectivity level as shown in Table 7. Institutions which charge fees by program rather than be academic term should be classified by prorating their charges to a thirty-two-week year. Where special program requirements exist, classify the programs separately for each institution.

Step 7. Classify each accessible institution according to its "clientele orientation" as shown in Table 8. Since approximately one-half of all students do not commute to college, some colleges are obviously accessible to students who live beyond the institution's proximity boundaries. Their student marketplace is in a potential student population that may be based in the region, statewide, out-of-state, or some combination of these markets. Therefore, the accessibility of the institution must be

TABLE 8: CRITERIA FOR CLIENTELE ORIENTATION CLASSIFICATION OF INSTITUTIONS

Clientele Orientation	Percent Instate Students	Percent Commuting Students
1. Locally based	90 to 100	95 to 100
2. Regionally based	90 to 100	20 to 94
3. Regionally/ Statewide based	90 to 100	0 to 19
4. Statewide based	80 to 89	------
5. Statewide/ Out-of-state based	50 to 79	------
6. Out-of-state based	0 to 49	------

assessed by comparing the characteristics of admitted students to those of potential students in the institution's geographic marketplace.

The Indiana Commission for Higher Education attempted to determine the student marketplace of each of the states institutions by examining the number of students attending the institution from each of the states planning regions and from other states. Institutions were classified as having student marketplaces that were (1) regionally based, (2) out-of-state based, (3) statewide based, and (4) combinations of the first three. The absence of institutional data on the number of students from each county prevents GPEC from replicating the Indiana procedure. However, it is possible to use available data to classify Georgia institutions by clientele orientations.

By substituting the percentage of commuting students for the percentage of students from the region in which the institution is located, it is possible to adapt the Indiana classification scheme for use by GPEC. Table 8 presents the adapted set of criteria for the classification of Georgia institutions. Use of this new set of criteria with its different data requirements, resulted in the classification of all but one of the Indiana institutions into the classifications originally determined by the Indiana Commission. After this validation process, the new criteria were modified to differentiate between "local" and "regional" clienteles, a feature that is not present in the Indiana scheme. Using the criteria, it is possible to classify the institution then compare it and its clientele groups demographic characteristics.

The source of all data necessary for completion of this step is The College Handbook. Proprietary and area vocational schools, both of which typically serve only instate commuting students can all be assumed to have locally or regionally based clientele.

Step 8. Using HEGIS data, record the percentage distribution of students in each institution for the factors of race, sex, and age. While demographic information by institutional program would be desirable were it not for the need to request data from institutions, it would probably add little of additional value. Given the above factors, once students have been admitted to the institution, it is unlikely that most schools would bar admission to specific programs based on demographic factors alone.

Estimating Geographic Accessibility

Step 9. Plot the location of each accessible institution on large scaled maps as in step 7 in Study 1 and describe proximity limits as discussed in step 9 of Study 1. Most postsecondary occupational schools are located in cities having populations of 50,000 or more. Therefore, a very limited amount of new research will be necessary to determine the population of areas in which institutions are located. Where necessary, repeat step 8 in Study 1.

Examining the Population Served by the Institution

Step 10. Using 1970 census tract data, compute the number of persons living within the proximity limits of each institution. The total number of 14-year-olds, of males and females, of blacks and whites, of college graduates, of persons employed in professional, technical, and kindred occupations all should be recorded and then computed as percentages of the total 1970 census tract population.

Using the Budget of Planning population estimates for 1975, multiply the percentages by the 1975 population for each area. These estimates of the population distribution should be supplemented whenever possible by similar estimates from area and regional planning commissions.

Step 11. Using data available from the Department of Education, determine the high school completion rate for all school systems within the proximity limits of accessible institutions. The Department of Education's annual Statistical Report can be used to determine the percentage of students who graduate from high school. The Statistical Report 1973-74 will soon be available and its school system graduation totals should be compared to the 1969-70 report enrollment totals (1974 graduates are 8th grades in the 1969-70 report). Use of 1969-70 data will minimize the impact of migration upon completion rates while "catching" students before most of them reach the minimum age for dropping out.

The Department of Education may compute completion rates by system, but the consultants were unable to determine whether or not those rates are in fact computed and available to GPEC.

1970 census tract data can be substituted for these data by simply recording the percentage of the population having completed high school. However, this measure would consistently underrepresent the high school completion rate of recently enrolled students.

Presentation and Analysis of the Data

Table 9 summarizes the types of data, indices, and comparisons that can be made using Study 2 procedures. The actual presentation of the data in report form should consist of a brief discussion of each factor affecting accessibility (proximity, financial, etc.) followed by data on that factor.

Completion of Study 2 will be time-consuming and, at times, frustrating for GPEC staff as they find that factors that should be considered must be omitted due to the lack of data. Nevertheless, data derived from Study 2 will be of a more comprehensive nature than any yet available to state-level decision-makers in Georgia or in any other state.

TABLE 9

RECOMMENDED ANALYSIS OF STUDY 2 DATA

Data/Factors	Disaggregate by
A. Institutional characteristics 1. fees and charges 2. admissions practices 3. selectivity level 4. clientele orientation	a. institution b. program c. type of institution d. type of program e. county, planning region, etc. f. system (all institutions)
B. Student characteristics 1. age 2. sex 3. race 4. commuting status	a. institution b. type of institution c. county, planning region, etc. d. institutional characteristics e. system
C. Potential student/population characteristics 1. age 2. sex 3. race 4. family income level 5. employment in technical professional, and kindred occupations 6. college graduates 7. high school completion rate	a. institutional proximity limits b. county, planning region, state, etc. c. selectivity level (by level for C 3-4, 7) d. clientele orientation (by individual institution and type of orientation for C 1-6)
D. Population within commuting distance of institutions	a. selectivity level b. clientele orientation c. county, planning region, state, etc. d. potential student/population characteristics

Annotated Bibliography

Allman, Katherine A. A Reference Guide to Postsecondary Education Data Sources. Boulder, Colorado: National Center for Higher Education Management Systems, 1974. A reasonable comprehensive listing of data sources. Uses readily available sources. Limitations of the Guide are that many of the sources are terribly dated and some data are not available from the listed sources.

College Blue Book, The. U.S. Colleges: Tabular Data. 14th ed. New York: CCM Information Corporation, 1972. Includes information for: Georgia colleges on: (1) freshman ranking in high school graduating class, (2) admissions test score averages, (3) admissions practices, (4) percent of applications accepted, (5) tuition and fee charges, and (6) enrollment by sex and race.

Halstead, D. Kent. Statewide Planning in Higher Education. Washington, D.C.: U.S. Government Printing Office, 1974. Among the useful information included in this practitioner-oriented documented are comparative state rankings for numerous education related factors and a procedure for the systematic comparison of truly comparable states.

National Commission on the Financing of Postsecondary Education. Financing Postsecondary Education in the United States. Washington, D.C.: U.S. Government Printing Office, December, 1973. Contains an excellent analysis of the effects of income and race on college attendance rates.

Willingham, Warren W. Free-Access Higher Education. New York: College Entrance Examination Board, 1970. The most comprehensive analysis of accessible from a state-level perspective. Includes discussions and state assessments on financial, geographic, and admissions accessibility.

APPENDICES TO THE

ACCESSIBILITY STUDY

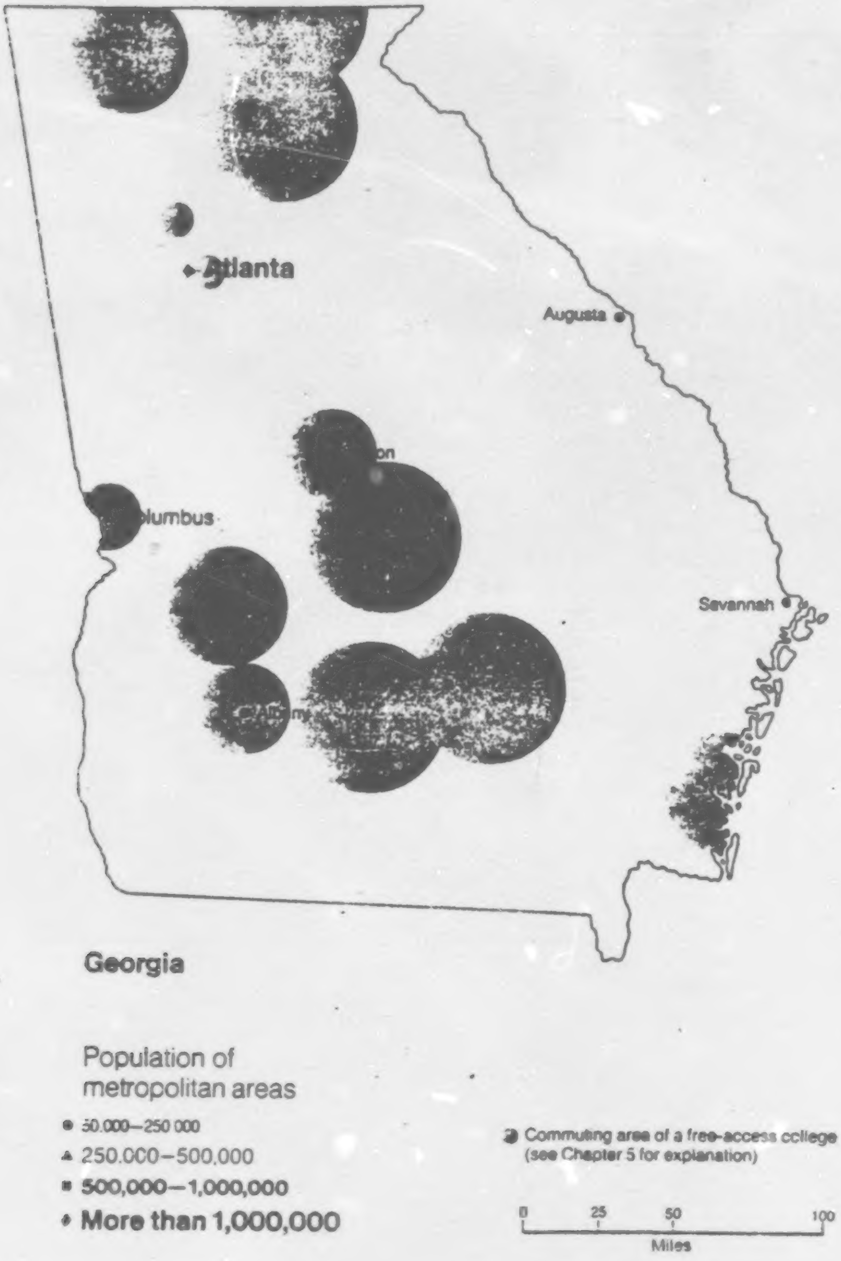
Atlanta
Augusta
Savannah
Georgia
Population of metropolitan areas
● 50,000—250,000
▲ 250,000—500,000
■ 500,000—1,000,000
◆ More than 1,000,000
Commuting area of a free-access college (see Chapter 5 for explanation)
0
25
50
100
Miles

Table 1. Number of recognized colleges at different levels of accessibility in Georgia (fall 1968)

	Level of accessibility					
	Free-access		Less accessible			
Type of college	*1*	*2*	*3*	*4*	*5*	*Total colleges*
Public two-year	**0**	**11**	0	1	0	12
Public four-year	**0**	**1**	9	2	3	15
Branches	**0**	**1**	0	0	0	1
All private	**0**	**1**	4	17	6	28
Total colleges	**0**	**14**	13	20	9	56

Table 2. Percentage of different populations within commuting distance of a free-access college in Georgia (fall 1968)

		Percent within commuting distance		
Type of community	*Population in thousands*	*White*	*Black*	*Total*
Metropolitan areas (over 1 million)				
Central city	487	18	4	13
Fringe	530	35	29	34
Other metropolitan areas	797	49	49	49
Counties over 20,000	977	29	21	27
Counties under 20,000	1,144	27	19	24
Total state	3,935	33	24	30

Table 3. Estimate of additional colleges required to put specified percentages of the population of Georgia within commuting distance of a free-access college

	As of fall 1968	*Hypothetical additional colleges*				
Number of free-access colleges	14	6*	3	5	9	9
Cumulative percent of population within commuting distance	30%	51%	60%	69%	79%	90%
Average population within commuting distance of each college (in thousands)	84	138*	113	75	45	45

* Figures in this line are not cumulative. Each refers to an independent set of additional colleges.

APPENDIX B

Technical Report on Problems Related to Estimating the Population Served by an Institution

Subsequent to the typing and duplication of the accessibility study, the consultants were advised that the GPEC staff requires more detailed information on procedures related to estimating the number of persons living within the proximity boundaries of postsecondary institutions. This technical report is intended as a response to the three specific problems staff have encountered in implementing the consultants' recommended methodology.

> Problem 1: Blacks and other minorities are reportedly systematically "undercounted" by the census. What method should be used to account for the actual total minority population within counties and proximity boundaries thereby rendering accessibility percentages for minorities more accurate?

There seem to be three possible responses to this problem. First, GPEC can ignore the undercounting of minorities just as other states have. Ignoring the issue seems likely to do little to improve GPEC's credibility with minorities. At the other extreme, a second approach would be to squarely confront the issue by inflating minority population total by the percentage minority leaders suggest most accurately compensating for the undercounting. Confronting the issue in this manner will necessitate the use of data of questionable accuracy and may adversely affect broad acceptance of the Commission's accessibility data.

The consultants recommend that GPEC follow a middle course. This approach would involve using standard census data as described in the accessibility study report. The master plan's explanation of the findings related to minority counts would include a case of citing the possibility that the study's data are inaccurate. A brief but thorough discussion of the issue and its possible effects on accessibility followed by careful worded recommendations should avert the undesirable consequences of the first two alternatives.

Problems 2 and 3: Problem 2 - In those cases where institutional proximity boundaries include only portions of political subdivisions or census tracts, what specific procedures can be used to determine the number of persons residing in the included segment? Problem 3 - Given problem 2, how can the racial composition of the included segments be determined?

No entirely accurate procedure exists for determining the number of people or the racial mix within a political subdivision or census tract. Moreover, because the proximity boundaries are themselves estimated radii, even a door-to-door census would produce only an estimated total for the population served by the institution.

The best possible estimates of the racial composition and total number of persons residing within a "partially included" census tract will result from a careful analysis of the population of cities and towns within the included portion of the census tract. Where population density appears to vary little within a census tract, the estimated fraction of the tract included within an institution's proximity boundaries multiplied by the tract's total population. Similar, the racial mix should be assumed to remain constant throughout the tract.

What is called for is not a formula or rigid procedure but careful, consistent analysis. Just as importantly, we echo Willingham's comments on the shortcomings of his highly regarded study:

> ...the reader should realize that estimates given here are in no case precise and may, in limited geographical areas, be quite unreliable." (p. 20).

THE PROGRAM DUPLICATION STUDY

In his letter of May 19, 1975, Dr. Robert Leonard, Executive Director of the Georgia Postsecondary Education Commission (GPEC), stated the purpose of the program duplication study as being the identification of "areas where additional cooperative arrangements could meet current need at less cost to the taxpaying public". Additionally, he stated that the study should identify common standards and definitions for measuring program and administrative duplications of effort at all postsecondary institutions in Georgia.

The methodology that was developed by the consultants is, not as broad as was originally intended nor as comprehensive as is methodologically possible. Due to GPEC's limited staffing and its budgetary constraints, the consultants were directed to develop study methodologies that would not require the Commission to collect data from institutions. Instead sources of "canned data" will be relied upon in the study. As a consequence of relying upon, available data, those facets of program duplication for which reliable data are not available are excluded from consideration in the study methodology. Among those possible areas of examination are assessments of the enrollment, faculty and administrative commitments, and costs of duplicated programs.

In addition to delimiting the study, GPEC's necessary reliance upon canned data may result in less accurate findings. If GPEC had the statutory authority to require institutions to use uniform reporting procedures in submitting data to the Commission, its program duplication study could accurately identify all programs offered by the state's postsecondary institutions. Since it lacks that authority and since no other agency presently has or exercises similar authority, GPEC's data must be called from numerous different sources, each conceivably using different data element definitions and reporting procedures

In spite of the limitations of the study, it represents one of the more sophisticated of the relatively few state-level program duplication studies. Moreover, it will allow GPEC to accomplish its purpose of identifying unnecessarily duplicative program offerings.

The sections that follow develop a study methodology that recognizes the above purpose and constraints. Section 1 outlines factors which should be considered by GPEC in determining whether or not a program is unnecessarily duplicative. Section 2 presents the consultants' recommendations relative to the methodology, data elements, and analysis to be used in the study.

SECTION 1: A CONCEPTUAL APPROACH TO PROGRAM DUPLICATION

Few state higher education agencies have undertaken program duplication studies per se. Instead, program duplication is generally used as one of the many criterion for the review of new and existing programs. These criteria used for program review are appropriate for use in a study of program duplication in that they help establish whether or not unnecessary program duplication exists. A recent Education Commission of the States task force on statewide planning suggested ten factors that should be examined as a basis for phasing out or reorganizing existing programs. (In parentheses at the right of each factor is the number of states using the factor as a criteria in existing program review.)

1. Number of program graduate in each of the last five years. (14)
2. Number of students enrolled in the program (entry and dropout rates). (10)
3. Size of classes and their cost. (2)
4. Cost per program graduate. (8)
5. Faculty workload. (2)
6. Program quality as reflected by the level of position achieved by program graduates, faculty qualifications, and regional or national program reputation. (8)
7. Production of graduates from similar programs in the state, region, or nation. (2)
8. Economics and improvements in quality to be achieved by program consolidation or elimination. (5)
9. Student interest and demand for the program. (9)
10. Appropriateness of the program to institutional role or mission.[1] (9)

As the numbers in parentheses indicate, program duplication (factor 7) is one of the three least commonly used in the review of existing programs. Program cost relative to its productivity and student demand for the program are much more often examined. However, even the most frequently used factors are examined in only a dozen or so states. Over one-half of the state higher education agencies, the Georgia Board of Regents included, do not presently have procedures for the review of existing programs. The widespread absence of any criteria probably reflects both the lack of any need or demand for such criteria during the recent "Golden Years" of higher education and the dangers identified by Berdahl:

> The power to reallocate and eliminate programs as seldom exercised (by state higher education agencies) because past experience has shown that such moves have unfortunate political repercussions, stirring up controversy and even leading to the agency's decision being overturned.[2]

While the economic-political climate may have changed since 1971 when Berdahl wrote, institutions are still capable of bringing enormous pressures to bear upon those who would deny them programs and program enrollments. If state planning agencies remain effective by evenly balancing their roles as institutional advocate and friendly adversary, agencies must recognize why institutions continue to offer seemingly unnecessary programs. Exclusive reliance upon factors like those identified by the ECS task force seems likely to seriously damage the agency's credibility among institutions. Therefore, additional factors or criteria for assessing the extent to which programs are unnecessarily duplicative must be examined.

Institutional Perspectives on Program Need

Program continuance is determined by many factors that are not included in the ECS list. Some of the more obvious reasons for continuance are grounded in the institution's desire for increased enrollment and revenue growth, the prestige of offering certain programs and retaining certain faculty members, and numerous other considerations that may or may not be legitimate ones. In addition to those reasons of questionable validity, institutions have several very sound concerns that must be recognized.

1. The elimination of programs may adversely affect student choice, faculty load, and the nature of the education received by students across the institution. The courses offered in most programs serve two functions. The first function is that of constituting the core of the subject area for program majors. The second function is as "service courses" for persons in other programs. These service courses, taken as cognates, electives, or general education requirements, typically constitute over one-half of a student's program of study. Obviously the elimination of a program based upon its low graduate productivity could very seriously affect the institution if the program serves an important service function. Student choice would be increased, and an element of the student's education that had been viewed as desirable by the institution's faculty and administrators would be eliminated.

   If one accepts the view that program changes are made in a manner consistent with the educational needs of an institution's students where the institution itself evaluates the contribution of each program to the educational objectives of the institution, failure to consider institutional needs from this institutional perspective is educationally shortsighted. Nevertheless, the state-level planner must identify programs which can be cut back without serious institutional consequences, the best way to begin appears to be by examining the number of courses offered in major fields.

McGrath, Mayhew and others who have examined approaches to reducing costs in liberal arts colleges have criticized the colleges for offering an unrealistically large number of courses in each major area. As a rule-of-thumb, they have suggested that one and one-half times the number of required courses for majors be set as the upper limit on the number of courses offered in a major field.[3] In most small institutions, this would dictate that no more than twenty-three or twenty-four courses be offered in a major field. According to the authors, the service function of programs and student choice would not be seriously affected.

Using the rule-of-thumb and increasing the ratio slightly for larger institutions, the state-level planner can identify programmatic cuts which should and should not be made if educational quality and student choice are to be maintained. Conversely, programs with too few courses can also be identified. The value of such an examination of programs previously identified as duplicative is that where the agency cannot effect the elimination of duplicative programs, it may be able to effect programmatic reductions.

2. A breadth of lower-level course offerings is necessary if institutions are to offset the expense of upper-level programs and courses. Some programs that are likely to be identified as duplicative, such as elementary education, produce revenue that helps the institution offset the greater costs of certain other expensive but essential programs. If elementary and

secondary education, liberal arts, and business programs were among those eliminated, some institutions would be forced to request tuition increases or budgetary hikes in order to maintain their more expensive programs. These increases could well result in less of a savings to the taxpayer than would continuation of the duplicative program.

3. The level and type of training offered in a given program may vary considerably between two institutions that appear to offer identical programs. Occupational programs at private occupational schools, vocational-technical institutes, community colleges, and senior colleges often appear to prepare students for identical positions. However, they may actually develop quite different skills. Harris and Thornton differentiate among seemingly identical programs by focusing on the job entry at a semi-professional level, a sub-professional level, or a skilled or semi-skilled level. Automative technology, nursing, and computer technology are examples of programs which can be offered at each level.
4. Clientele groups may vary considerably among institutions that appear to offer identical programs. As though by design, different segments of postsecondary education have traditionally served students of differing cultures, socioeconomic status, and ability levels. Lower income, black, and less capable students have attended private occupational schools, vocational-technical institutes, community colleges, and low prestige four-year institutions in disproportionate number. Listed in reverse order of their openness toward enrolling low ability students, these four types of institutions vary considerably in the proportion of less capable students enrolled. To the extent that

each type has successfully modified its method and pace of instruction and its curriculum to the ability level of its students, the elimination of programs will result in decreased access to postsecondary education for certain ethnic and ability groups. Combining such programs rather than eliminating them may result in destroying the institution's ability to target its instruction for specific groups.

5. Competition for students forces institutions to constantly modify and improve program content while maintaining reasonably low costs to students. While there are negative aspects to competition among institutions the desire to be bigger and better than the "other guy" contributes to the quality of the programs. Competition fosters curricular and instructional change that may allow the institution to attract, hold, and graduate an increasing number of students.

It can also be argued that the elimination of public programs where identical ones are offered in the private sector will result in higher costs to students. Privately controlled institutions would unquestionably increase tuition if it were not for public school competition. While some would counter that private institutions could then improve program quality, there is no strong evidence that program quality is determined by its funding level after a critical mass has been achieved.

These and other factors which influence institutional perceptions of program need must be at least recognized by planners conducting a program duplication study.

What is common to all five of the factors in their inherent resistence to quantification, the approach typically and, too often, almost exclusively used in program review.

Indices for Use in the Program Duplication Study

Using the factors proposed by the ECS task force and those just discussed, seven criteria can be identified that should be examined as a basis for classifying a program as unnecessarily duplicative. Table 1 lists appropriate indices and data sources for each of the criteria. As the table shows, data sources exist for only about one-half of the criteria indices. Moreover, no sources of canned data are available for financial indices or for the criterion of program appropriateness. Institutional surveys and analyses of institutional budget requests would be necessary in order to undertake a study that conforms to the conceptual guidelines thus far discussed.

The Consultant's Recommendations

1. The consultants recommend that GPEC refrain from undertaking a study which purports to identify programs which are unnecessarily duplicative until such time as greatly increased resources and improved institutional cooperation permit it to adhere to the conceptual guidelines. The consultants feel that it would not be in the best interests of GPEC or postsecondary education in Georgia for the Commission to invite valid criticism of what must be, because of its limited resources, an inferior study. Nor does it seem the best course for GPEC to commit its limited resources to completion of a comprehensive program duplication study at the expense of the other studies.
2. The consultants recommend that GPEC conduct a study to determine which programs may be duplicated by Georgia postsecondary institutions. A study of

TABLE 1

CRITERIA FOR ESTABLISHING THE EXISTENCE OF UNDESIRABLE PROGRAM DUPLICATION

Criteria	Indices	Data Sources
A. Productivity	1. Number of graduates in each of the last five years	1. HEGIS survey (for 1971-72 to 1973-74)
	2. Number of students enrolled in the program (entry and dropout rates)	2. None for all programs (HEGIS data for 1st professional and graduate degrees)
B. Finance	3. Class size and their cost	3. None
	4. Cost per program graduate	4. None
	5. Revenue production of program	5. None
C. Quality	6. Faculty workload	6. None
	7. Program quality as reflected by	7.
	(a) level of position achieved by program graduates	(a) Proprietary only in GPEC survey
	(b) faculty qualifications	(b) None
	(c) regional or national program reputation	(c) Accreditation status
	8. Institutional service impact	8. None
D. Demand/Need	9. Student interest and demand for the program	9. None
	10. Local, state, regional, and national manpower demands	10. Planning Commission Reports
	11. Nature of the program clientele group	11. None
E. Appropriateness	12. Appropriateness of the program to the institutional role or mission	12. None
F. Level	13. Level of instruction	13. Various directories and HEGIS tapes
G. Proximity	14. Production of graduates from similar programs in the area, state, region, or nation	14. HEGIS tapes

possible program duplication will be much less effective in reducing duplication than would a study which identified unnecessarily duplicative programs. It could, however, be useful in securing the commitment of funds necessary for a more comprehensive study. As an examination of possible duplication, it would be unlikely to invite attacks on GPEC from institutions, yet it would establish the likelihood that further study would show that unnecessary duplication does exist. What seems critical is that GPEC understate rather than overstate what its study will show.

Given these recommendations, a procedure is described in the next section of this report that can be used to identify possibly duplicative programs.

SECTION 2: PROCEDURE FOR IDENTIFYING POSSIBLE DUPLICATIVE PROGRAMS

The procedure described below consists of a two-phase approash that will identify institutional programs that may be duplicative. The first phase consists of compiling a program inventory for all Georgia postsecondary institutions. The inventory itself may prove of value to GPEC in its future efforts to advise on the need for new programs. A second phase introduces factors which may be examined to begin to determine the extent to which certain programs are unnecessarily duplicative.

Phase One: The Program Inventory

The accurate classification of programs by type is crucial to determining where duplication exists among institutions. Fortunately, the HEGIS data that GPEC intends to use in this and other studies features a rather good classification scheme. That scheme is comprehensive in that it can be used with all types of postsecondary institutions and appears to accurately differentiate among rather similar programs. There are, however, certain limitations to the HEGIS scheme. First, because program information is accessed by reading for "earned degrees conferred" for certain years, new and small programs will not be identified as available if they did not graduate students during the year. Second, the availability of an "other" category under types of degrees conferred inevitably results in the identification of some programs as "other" that could be classified under an existing category. Although respondents must identify "others", they are not identifiable using computer tapes. Instead, the original forms must be examined. Therefore, sole reliance on HEGIS data may miss many programs.

Supplementing the HEGIS classification scheme in order to prepare a program inventory introduces its own problems. The consistency of program classification is reduced and the use of data from two different years may distort institutional program offerings. Nonetheless, the use of supplementary program information sources is recommended. After developing an inventory which identifies programs by institution and institutions by program using the HEGIS data, the following sources should be consulted for verification of the HEGIS program inventory: (1) the GPEC proprietary school study; (2) Directory 1974-75; and (3) Barron's Guide to the Two-Year Colleges, Volume 2: Occupational Program Selector, 1974 ed. Less current but potentially helpful sources include (4) The College Blue Book, Degrees Offered by Colleges and Subjects, 1972 ed.; and (5) Ferguson Guide to Two-Year College Programs for Technicians and Specialists, 1971 ed. The difficulty that is likely to be encountered in supplementing the HEGIS program inventory with the most recent additional sources (1-3) is that only Barron's Guide lists programs by level, i.e., certificate, diplomas, and type of degree. Sources 4 and 5 provide program information by level. A final source (6) the University System of Georgia

Annual Report lists all new programs approved by the Board of Regents during the system's fiscal year. Annual Reports for 1972-73, 1973-74, and 1974-75 may list programs that are not identified elsewhere.

Using sources 1-2 and 4-6, programs next should be classified by level, e.g., the type of degree offered. It is recommended that GPEC adopt program level classification scheme and inventory format similar to that used by the Indiana Commission in The Indiana Plan for Postsecondary Education: Volume I. The program levels used in the preparation of the Indiana program inventory are (1) proficiency; (2) certificate; (3) associate degree; (4) baccalaureate degree; (5) masters degree; (6) intermediate degree; and (7) doctoral degree. Since the HEGIS data GPEC will be using does not differentiate between programs of less than associate degree level, Georgia proficiency and certificate programs should be identified as "certificate level programs". Other than that modification, the GPEC levels should be identical to those used in the Indiana inventory.

One additional dimension can be added to the program inventory by grouping institutions according to the area planning and development commission (APDC) region in which they are located. The use of APDC regions permits the identification of programs duplicated by two or more institutions within reasonably close proximity to one another. While geographic proximity may be irrelevant for programs which are not specifically targeted for area students, format continuity requires that all programs be identified by region.

Having identified programs by field, level, and region, the inventory is complete. Each institution's programs should be listed by level and sent to the institution for verification. Discrepancies between the program inventory and the actual program of the institution thus can be identified and corrected. The consultants feel that institutional review of the program inventory is essential if the inventory and subsequent analyses are to be free of charges that they are factually inaccurate. Whatever its further use in the duplication study, the inventory should be annually updated perhaps in cooperation with the Georgia Educational Improvement Council.

Phase Two: Identifying Possible Areas of Unnecessary Duplication

The GPEC master plan should include the completed program inventory. In addition, it should include statements identifying possible areas of unnecessary duplication. Beyond identifying the types of programs and, perhaps, the planning regions in which duplication seems particularly excessive, the master plan should recommend cooperative arrangements among institutions, institutional self-studies, and a more thorough state-level program review process. The plan should not identify programs at particular institutions. Institutional level information is undoubtedly most effectively used when it is not used publicly. If institutional representatives know that GPEC has potentially embarrassing data but intends to use it only with, not against, the institution, a spirit of cooperation should be fostered.

The master plan list of possibly duplicative areas can be compiled using two simple criteria. The first criteria, and the one likely to identify the largest number of programs, is geographic proximity. Geographic proximity should be defined in terms consistent with those used in the accessibility study. Institutions with identical programs and overlapping proximity boundaries should be tentatively considered to be offering unnecessarily duplicative programs. The productivity of these programs should next be examined in order to determine whether or not student demand necessitates the offering of the same program at more than one area institution. No rule-of-thumb exists to help the planner in this effort. However, GPEC may wish to tentatively identify programs as underenrolled or underproductive where a particular program's enrollment is twenty percent or more below the mean enrollment of all state programs of that type.

A slightly different approach must be taken with programs which are not intended to serve local needs, e.g., institutions or programs classified in the accessibility study as regionally or statewide based. A program by program examination of each institution's total number of program graduates should be conducted. Again, programs that are obviously underenrolled relative to similar programs at other institutions should be identified.

Using the two criteria, a complete list of institutional programs can be compiled for use in making master plan recommendations relative to program duplication. As stated earlier, these recommendations probably should identify duplication by program type rather than by specific institution. The GPEC master plan recommendations thus can serve the objectives of creating official awareness of the extent of the existing duplication and a climate demanding the reduction of duplication.

An attempt to eliminate or reduce duplication in the post-secondary institutions of Georgia must be undertaken, as pointed out earlier, with the knowledge that all factors affecting institutional-program need have not been assessed. Therefore, GPEC staff should formulate alternative approaches to reducing duplication for each specific instance. Armed with alternatives ranging from reducing the number of faculty by reducing the number of major courses offered to the elimination of programs, GPEC can begin to assist Georgia institutions in reducing unnecessary program duplication.

Footnotes

1. Robert J. Barak, "A Survey of State-Level Academic Program Review Policies and Procedures for Higher Education," unpublished report for Iowa State Board of Regents (April, 1975), pp. 13-17.

2. Robert O. Berdahl, Statewide Coordination of Higher Education. (Washington, D.C., American Council on Education, 1971), p. 170.

3. Lewis B. Mayhew, The Smaller Liberal Arts College, (Center for Applied Research in Education, 1962), Chapter 4; and Howard B. Bowen and Gordon K. Douglass, Efficiency in Liberal Education (New York: McGraw-Hill Book Company, 1971).

4. James Thornton, The Community Junior College. (New York: John Wiley and Sons, 1972), p. 191; and Norman C. Harris, Technical Education in the Junior College. (American Association of Junior Colleges, 1964), p. 36.

Annotated Bibliography

Barron's Guide to the Two-Year Colleges, Volume 2: Occupational Program Selector. Woodbury, New York: Barron Educational Series, Inc., 1972.
A directory of junior college occupational programs by type and level of instruction. Included are certificate and diploma-level-programs excluded by some other publications.

College Blue Book, The. Degrees Offered by Colleges and Subjects. 14th ed. New York: CCM Information Corporation, 1972.
A directory of programs by type and level of instruction for two-and four-year institutions.

Ferguson Guide to Two-Year College Programs for Technicians and Specialists. Chicago: J.G. Ferguson Publishing Co., 1971.
A directory listing Georgia institutions' offerings for 130 occupational programs in five broad occupational fields.

Georgia Educational Improvement Council. *Directory 1974-75.* Atlanta: author, 1974.
A directory of all higher education programs at all Georgia public and private colleges. Program information is given by degree level.

Indiana Commission for Higher Education. *The Indiana Plan for Postsecondary Education: Phase One, Volume 1: The Current Status*. Indianapolis: author, 1972.

A master planning document which includes a program inventory by program type and level as well as by geographic region.

University System of Georgia. *Annual Report*. Atlanta: author.
Annual reports include lists of new programs approved by the Board of Regents. Programs are listed by degree level.

RECOMMENDATIONS RELATIVE TO THE PROPRIETARY SCHOOL SURVEY DATA, 1975

A review of the codebook for the 1975 Proprietary School Survey indicates that GPEC has undertaken one of the most ambitious data collection efforts ever directed at proprietary schools. Licensing bodies in other states, federal agencies, and independent researchers have yet to acquire information similar in scope to that which GPEC should receive. Consequently, the consultants are most favorably impressed with the survey and recommend that, as a service to the postsecondary education community, aggregated survey data should be compiled into a report available to a small, but national audience.

Our recommendations relative to the analysis and use of the 1975 survey data and to modifications in the survey used in 1976 are contained in the two sections that follow. Before turning to those recommendations, however, two assumptions concerning GPEC use of the data should be examined. First, we assume that GPEC does not now exercise, or intend to exercise, regulatory authority over private occupational institutions. The exercise of that authority would permit GPEC to collect radically different kinds of data. Second, we assume that GPEC intends the survey not only as a step in building a postsecondary data base, but also as a discrete data base for use by the institutions surveyed. Our experience is that many private occupational school educators are eager to have access to more information on their industry.

SECTION 1: RECOMMENDATIONS RELATIVE TO THE ANALYSIS AND USE OF 1975 SURVEY DATA

1. Variable 5 coding (Postsecondary Educational Institution Classification code) should be modified to recognize the very real differences that exist among public vocational-technical nonprofit, and proprietary schools. The present coding appears

to group nonprofit occupational schools with nonprofit institutions. Differences in their size, student clientele, and degree granting status dictate that the two be separately identifiable. Similarly, proprietary schools vary in a number of ways from private occupational schools. They are smaller, less stable, and less often accredited than are nonprofit schools. In addition, the schools are ineligible to enroll students assisted by certain types of state and federal financial aid.

2. Accreditation and approval status (variables 4 and 14 respectively) should not be inferred to denote quality. The accreditation status of private occupational schools appears to be largely dependent upon institutional longevity, size, and program type. Some accrediting and approval agencies require schools to operate for from six months to two years prior to granting them official recognition. At the same time, many schools have remained unaccredited because their size and financial condition make accreditation at least temporarily unfeasible.

Due both to the frequently sizeable lag between the time when institutions request accreditation or approval and its formal granting and to the lag in GPEC's collection and dissemination of the data, variable 4 and 14 should include an "applied for" category.

3. Uses of the Data for Postsecondary Education Policy Making

The rapidly rising cost of educating students at collegiate institutions has brought private occupational schools to the attention of budget conscious postsecondary education policy makers. Federal and state financial aid program eligibility continues to be expanded to include the schools and their students. Laws prohibiting contractual agreements between public and proprietary schools are being reexamined in numerous states. Unfortunately, policy making has preceeded the development of data bases for effective decision making. Critical questions related to the performance of graduates, the costs and benefits, and the clientele of both public and private occupational schools remain unanswered. However, GPEC can begin to answer many of those questions with its 1975 survey data. While comparisons to public institutions are not yet feasible, GPEC reporting of the data will enable policy makers to more accurately assess the potential and performance of private occupational schools. Such assessments all too often seem to be based on knowledge of the practices of the few bad schools rather than the many good ones.

Listed below are those uses of the data that seem most critical to the consultants. Where comparisons are unfeasible, reporting of the private occupational school data can do no worse than improve the quality of state-level decision making.

A. Determine the average tuition charges for training in specific program areas and make the data available for comparison to the total cost (state, local, and student costs) for public programs.

B. Determine the average program length for specific types of training and make the data available for comparison to public programs.

C. Determine the percentage of students who obtained jobs after completing training.

D. Determine the number of women and minority students trained and make the data available for comparison to public programs.

E. Determine the number of high school dropouts and the number of students over twenty-four who are trained in the schools. (The average age will probably suggest that students are attending the schools after several years on the job market.)

The five data uses identified above, those already identified by GPEC, and uses related to the five other studies make it obvious that GPEC has identified very useful data elements for inclusion in the 1975 survey. The next section of this report recommends requesting additional types of information in 1976 that should prove of additional value.

SECTION 2: MODIFICATIONS FOR THE 1976 SURVEY

1. Enrollment should be defined in the survey instructions as the total number of students who attended the school during the year (calendar or fiscal). On Page 3 of the survey "total students" information is requested for the school "as of fall 1974". Respondents thus will report their current enrollment. However, because many schools operate programs of less than a year in length, the schools may actually have an annual enrollment as high as two or three times their current total. Thus, the 1975 survey will underestimate the total enrollment in the private occupational school sector.

2. Information on the type of recognition, e.g., diploma, certificate, degree, should be requested in order to permit a comparison of the schools' program offerings by level with those of other types of institutions. Program level information is especially valuable for use in the duplication and accessibility studies.

3. The proportion of entering students who complete their training should be requested in order to better determine how the schools fare as a viable source of occupational training. The completion rate of private occupational schools, along with their placement rate, will apparently be among the types of information that new Federal Trade Commission (FTC) will require the schools to routinely collect and make available as public information. Collection and use of this data by GPEC is thus unlikely to cause a negative reaction among the schools.

One factor must be recognized at the onset; most people who attend private occupational schools do so for the sole purpose of quickly qualifying for a job. As soon as they gain and/or convince a prospective employer that they have gained entry level skills, many students drop-out of the schools. While they have achieved their objectives, the students show up on paper as drop outs.

4. In order to better determine whether or not the schools serve student clientele groups that are underrepresented in other types of institutions, data on student employment (part-time and full-time) and marital status should be requested. Taken with the data on students by race and sex, it should be possible to better define the populations served by the schools.

5. A more accurate picture of the availability of financial aid to the schools' students can be gained by expanding the present list of programs. The 1975 survey lists the Basic Educational Opportunity Grants, National Defense Student Loan, and College Work-Study Programs as well as "state", "veterans", and "other federal benefits". While these programs constitute the major sources of aid for the students, deferred tuition, loans funded by the school, loans through financial institutions, vocational rehabilitation benefits, and scholarships are other major sources of student assistance.

6. GPEC may wish to request information on the amount of the various taxes proprietary schools pay. As Richard Fulton, Executive Director of the Association of Independent Business Schools and Colleges, has observed, proprietary schools are taxpaying institutions whereas other types are tax-avoiding or tax-consuming. Most proprietary school directors recognize the potential leverage of their tax dollars as a means of persuading policy makers to avoid legislating excessive operational constraints that would decrease school revenue and thereby reduce local, state, and federal tax revenue. While GPEC should not have that specific objective in mind in collecting the data, it should help decision makers recognize the economic benefits derived from having a strong private occupational school industry in Georgia.

7. Data on the number, qualifications, race, and sex of faculty should be requested. The schools rarely retain faculty whose students fail to get and keep jobs. Retaining such faculty, over

the long range would increase the difficulty of recruiting and placing students. However, private occupational school faculty are generally assumed to be less competent than faculty as less "tainted" types of institutions. Accurate information on faculty qualifications will help GPEC refine its assessments of the extent to which students in the schools are receiving instruction comparable to that offered by other institutions.

Because attracting and retaining students is critical to their survival, the schools have traditionally attempted to achieve a strong fit between faculty and students. Information on the race and sex of faculty as well as on students thus constitutes a measure of that fit.

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THE POSTSECONDARY EDUCATION ISSUES AND PROBLEMS STUDY

The issues and problems study will attempt to identify the salient issues being discussed by the total community of postsecondary education, including all institutional sectors, state agencies, policy makers, and the general public. This study will strive to identify the issues and problems likely to confront the state in the near and distant future, reveal the diversity of concerns in postsecondary education, and assist in formulating the priorities to be included in the statewide plan.

The purpose of this report is to suggest the methodology appropriate to the task of conducting an issues and problems study. There are two portions of this methodology: inputs to be provided by the enrollment, accessibility, and program duplication studies, and components supplied by a special issues and problems study.

Utilizing Information From Other GPEC Studies

The other studies that we are recommending for the GPEC should provide timely information on enrollments, accessibility, and program duplication in Georgia. Upon analysis and comparison with regional and national trends, this historical, current, and projected information will identify the particular strengths and weaknesses of Georgia postsecondary education. This analysis and comparison will provide an empirical base for focusing the problems and issues that Georgia education is facing presently and will confront in the future.

While helpful, this information is inadequate to the whole task, however. The analysis and comparison will not reveal all relationships of interest and may not capture qualitative assessments of the condition of and issues of Georgia's educational environment. Also, although expert analysis may reveal the emergence of certain problems, the education community and/or the general public may not be aware that these problems and issues are looming on the horizon. Assessment of such perceptions are important, indeed. For these reasons, a special data collection/opinion sampling endeavor is necessary to identify fully the issues facing Georgia postsecondary education and to assess how these issues are viewed by a variety of educational and lay publics.

Components of the Issues and Problems Study

The issues and problems study that is eventually accepted by the GPEC staff will consist of some combination of four components, which are outlined in Figure 1. The type of information activities undertaken by the study will both identify the major issues and problems and assess the public/educational community support for particular positions on the important issues. The type(s) of activities for input and/or decision-making may range from closed staff work to full blown public hearings presided over by the GPEC and/or staff. The parties to be involved may encompass a narrow staff representation or may include representatives of most of the educational and public opinion groups in the state. And the types of issues considered may include an assessment of the general perceptions the various groups hold of the state of postsecondary education in Georgia, but may also measure public opinion on a number of specific points of educational philosophy. For example, the public willingness to support adult learning could be a major topic of debate.

Needless to say, there are endless permutations and combinations of these four elements that could be chosen. These ultimate choices are best made by the GPEC staff. In reality, the particular combination that is selected should achieve a trade-off between the value of wide participation and the great expenditure of time involved, the directiveness provided by small group or staff endeavors and the need for outside input, and the purity of clean, concise answers and the difficulty of achieving such answers in educational matters. Also, the actual

FIGURE 1

ELEMENTS TO BE CONSIDERED IN THE ISSUES AND PROBLEMS STUDY

Element	Different Options
Type of Informational Activity	1. To identify issues and problems that are considered important 2. To measure the public/educational support for a particular position on an important issue
Types of Activities for Information Input/Decision-Making	1. Public hearings for educational and lay constituencies 2. GPEC meetings 3. Staff reports: White papers 4. Survey questionnaires 5. Small group meetings convened by GPEC staff 6. Small group meetings, use of Delphi approach
Parties to be Involved	1. GPEC 2. GPEC Staff 3. Consultants 4. Skate Government decision makers from non-educational positions 5. Educational constituencies (a) State Government, Education (b) University System of Georgia (1) Universities (2) State Colleges (3) Community Colleges (c) Private Institutions (d) Proprietary Schools 6. Laypeople (a) Citizens and Community Groups (b) Labor (c) Management (d) Pressure Groups (e) Area Planning Commissions
Types of Issues to be Addressed	1. General assessment of perceptions of the state of postsecondary education in Georgia today and in the future 2. Occupational vs. social benefits of education 3. Level of support for education 4. Who pays for adult learning? 5. What balance should exist between public and private, community college and proprietary? 6. Specific issues raised by enrollment, accessibility, program duplication studies

directions chosen for the enrollment, accessibility, and program duplication studies will influence the components chosen for the issues and problems study.

Some Recommended Approaches

Although the final combination selected is the prerogative of the GPEC, there are a number of combinations of the four elements identified in Figure 1 that deserve special attention. These alternative methodologies are displayed in Figure 2, where their respective purposes, the groups to be included, and the disadvantages/advantages of each are discussed. Some combination of these alternative methodologies, when combined with the input from the enrollment, program duplication and accessibility studies, should enable a reasonably complete assessment of the issues and problems confronting Georgia postsecondary education.

The public hearings alternative is largely self-explanatory. The GPEC would convene a series of public hearings in which divergent viewpoints would be sought from a variety of educational and layperson constituencies. By forming subcommittees or task forces, the GPEC could utilize the services of other educational and public leaders who could serve on the subcommittees and could address a wider range of issues and alternatives. The exposure gained by and for GPEC, the valuable input received, and the enfranchisement of often ignored groups argue for inclusion of some form of public hearings forum in the package selected by the GPEC.

Public forums do not easily reach consensus, however, and it is often difficult to gauge the true body of support behind propositions fostered by special interest groups. Although the GPEC and possible subcommittees should provide the decision-making mechanism, it may be desirable to convene small groups or task forces to address specific problems and either reach consensus or create a concrete series of proposals or alternatives.

Columns two and three in Figure 2 address this need. The homogeneous small group is best for coming to grips with a defined problem on which a consensus is wished. On the other hand, a more heterogeneous group is better for coping with more complex problems or for spinning off creative lists of options. One technique which may be used in this regard is the so-called "Delphi technique". In this approach, participants first identify their perceptions of important issues and are then given the opportunity to revise their estimates, based on feedback from other persons. The Delphi approach, undertaken by a group of people who are equipped and prepared to address the issues of the future, may be a useful way of identifying future problems and issues of which the general public may be unaware. At any rate, the small group experience is essential to decision-making and to providing creative views of future issues.

Neither the public forum or small group approach provides a systematic measurement of the diversity of opinion regarding the importance of particular issues and problems nor do they assess accurately the position of different groups on these issues. To accomplish these purposes, survey research is called for. In creating the survey instruments, the GPEC staff or consultants may want to utilize the input from public hearing and/or small group work. The research instrument should be sent to appropriate respondents in all types of educational institutions and lay groups.

The survey instrument may include questions that are highly focused and/or questions that are open-ended. An example of focused questions about Georgia educational issues might include the following:

Indicate how important it is to your institution/interest group that Georgia postsecondary education accomplish the following goals.

FIGURE 2

POTENTIAL MEANS OF IDENTIFYING THE ISSUES AND PROBLEMS FACING GEORGIA POSTSECONDARY EDUCATION

	Alternative Methodologies			
Characteristics	Public Hearings	Small Group HoEncounters: Homogeneous Group	Small Group Encounters: Heterogeneous Group, and/or Delphi Technique	Survey Research
Purpose	To receive the inputs of many, widely divergent bodies of opinion, different constituencies, and pressure groups. To furnish a public forum for debate.	To bring together a small group of homogeneous, knowledgeable people to address a problem.	To address a more complex task and provide different viewpoints, yet benefit from the small group, task-oriented setting. Delphi technique enables departing from conventional folk wisdom.	To systematically collect quantitative and/or qualitative data in a duplicative fashion from a wide variety of people May be open-ended or highly focused
Groups to be Included	The GPEC, or the GPEC staff would preside over the public hearings. In order to divide the task, subgroups could be formed. Educational and governmental groups could be called. Most important, however, would be the input of laypeople, community leaders, labor, management, and interest groups.	GPEC staff or consultants could preside. People familiar with educational problems from institutional, state government, and community perspective. Not necessarily homogeneous in viewpoint, but homogeneous in possession of expertise.	GPEC staff or consultants preside. The heterogeneous group would not be better at reaching consensus but at raising more wide ranging issues. The Delphi approach would also raise some more "futurist" issues, especially if its membership included people of a far-sighted nature.	GPEC staff and/or consultants could create instruments to systematically measure the importance of certain issues and the positions of various groups The instruments could be constructed after considerable input from interested groups
Advantages/ Disadvantages	Involves the GPEC in a highly public sense. Generates input from potentially disenfranchised groups. Difficult to assess real level of support for certain issues and positions; May overstate the power of pressure.	In a small group setting, can address specific tasks and agendas. May reach "inbred" conclusions.	Small group setting is good. Some "futurist" approaches may fail to make the link between the present and the future adequately apparent to be usable.	Provides systematic data that may be manipulated. The quality of the information is often as good as the survey design. May limit the scope of questions asked.

	Of Very Much Importance (1)	Of Much Importance (2)	of Moderate Importance (3)	Of Little Importance (4)	Of No Importance (5)
1. Provide equality of educational opportunity for all Georgians					
2. Support lifelong learning of any adult Georgian					
3. Support only occupational training or degree credit study of traditional 18-21 year old students					

Indicate how successful you feel Georgia education has been in meeting these goals.

	Very Successful (1)	Successful (2)	Moderately Successful (3)	Relatively Unsuccessful (4)	Very Unsuccessful (5)
1. Same goals statements as above					
2.					
3.					

While preparation of the exact goal statements should follow the analysis of data on Georgia and should be done by those familiar with the educational system and values of its people, the attached Technical Report suggests some possible goals, issues, and problems that should be covered.

THE GPEC MASTER PLAN

Of all the reports prepared for GPEC by the consultants, this report on a methodology for preparing a state master plan contains the fewest concrete recommendations. Because it would be inappropriate for the consultants to make the final determination of which issues and problems GPEC should focus upon in its plan, this report identifies a broad range of potential planning topics, in addition to presenting methodologies for conducting the much narrower range of planning activities that GPEC already has decided to undertake.

The sections that follow describe a methodology for the preparation of a statewide plan for Georgia postsecondary education. A major component of that plan, or for that matter any state plan, consists of a status report on postsecondary education. The combination of the status report and the master plan should prove to be less redundant and of more value to GPEC than preparing two separate and distinct documents.

Section 1 of this report presents a brief discussion of decisions that should be made by GPEC regarding the objectives, scope, development processes, and presentation of the master plan it will issue. For the most part, the discussion focuses on the policy implications of procedural decisions. Section 2 identifies master plan components. The types of data and other information typically included in state plans are identified. Among these components are those comprising the postsecondary education status report. Also included are procedures to be employed in gathering, analyzing, and presenting specific components. Section 3 is comprised of discussions of the linkages between GPEC's studies and the master plan.

SECTION 1: POLICY DECISIONS REGARDING MASTER PLANNING

Commission members have undoubtedly discussed many of the issues related to the objectives, scope, processes, and presentation of the plan. Nevertheless, from their vantage point as outside observers, the consultants have attempted to identify a very limited number of these issues that they consider to be particularly relevant to the GPEC planning effort. Issues that are related to the components of the master plan are discussed in Section 2.

Objectives of the Plan

The choice of objectives to be attained by the state plan is a complex one. While the overriding concern must be for the state's citizens and its institutions, numerous other factors often dictate planning objectives that are less desirable but more attainable than others. Economic and political concerns frequently necessitate adopting more limited planning objectives. Moreover, perceptions of the present and desired future role of the planning agency can affect the choice objectives.

In the case of agencies like GPEC that have broadly mandated planning authority but little actual control over the implementation of the plan, the range of possible objectives is broader than for most state planning bodies. Because it is not restricted to identifying objectives that it must attain, such an agency is in a position to specify objectives that place the principal responsibility for attainment on other bodies. It can, in effect, identify what others can and should do and then rely on institutional, political, and public pressure for the attainment of the agency's objectives. If the objectives are sound, the agency will have fulfilled its mandate.

In contrast to choosing planning objectives that focus the responsibility for attainment principally on others, an agency could choose objectives which would call for it to cooperate with other bodies in the implementation of the plan. Such an approach is likely to expand the agency's control over the accomplishment of its objectives but, most likely, will necessitate compromises with the other bodies. These compromises may result in objectives that are more readily attainable and, perhaps, less desirable. This compromising of objectives seems inevitable where the agency's performance as a planning and implementing body would be largely evaluated on the basis of whether or not the objectives are achieved.

These two extreme approaches obviously necessitate very different planning tasks. The first approach calls for a planning document that covers the full range of statewide postsecondary activities while the second restricts the document's focus (and content) to those areas for which the agency now has responsibility or desires to have increased responsibility. The first approach requires a minimum of consultation with other agencies while the second necessitates a great deal of interagency contact.

GPEC will probably adopt an approach somewhere between the two extremes, performing some tasks individually and others in concert with other agencies. GPEC staff must know the exact nature of the Commission's objectives and its intended future role if they are to make decisions and to develop a plan that is consistent with the objectives of the Commission.

Scope of the Plan

Narrowing the wide range of postsecondary education activities and issues to the relatively few that can be thoroughly examined in a master plan is a critical process for a planning agency. Effective planning requires that the agency identify its own planning objectives, the felt and unfelt needs of the system and its constituents, and its resources for planning (including the availability of data).

In the consultants' view, it is of particular importance for GPEC to assume a relatively narrow focus in its master plan.

GPEC is clearly understaffed and underfinanced in comparison to most state-level planning agencies. In spite of having made definite progress in the area, GPEC still lacks the full cooperation of other Georgia groups, and, as a consequence, has very limited access to the kinds of information typically analyzed in state plans. At the same time, however, its very survival as a viable planning agency appears to depend upon the quality of its planning effort. Thus it seems crucial for GPEC to focus on a relatively small number of issues, to analyze those issues in appropriate depth, and to make recommendations that are deemed sound by those in a position to reduce or broaden GPEC's future activities.

In light of these considerations, the range of topics actually to be examined by the master plan may have to be somewhat narrower than later sections of this report will suggest. As an example, Section 2 identifies the examination of financial data as one of the traditional components of master plans. GPEC, however, may encounter considerable difficulty in obtaining the type of data necessary for a thorough analysis. Given this need to narrow the scope of the plan, the consultants strongly advise that the "Issues and Problems" study be conducted as soon as possible in order for it to not only provide data for the plan, but also to narrow the range of issues with which GPEC must deal.

The Master Planning Process

Master planning for postsecondary education typically involves extensive use of standing advisory committees and/or special technical committees. These committees are usually composed of (1) representatives from the various institutions and from various levels within the institutions, (2) knowledgeable representatives of government, business and the citizens at large, (3) representatives of other state-level higher education related bodies, and (4) representatives of certain special interest groups in the state.

These committees frequently participate in determing the data to be analyzed, in the analysis of the information, and in development of recommendations. Research indicates that this extensive involvement of committee members in the planning process produces better plans and creates more support for them than any other approach. However, that involvement must be more than superficial if beneficial results are to be gained.[1]

The operation of the degree of involvement as a critical variable is of considerable importance to GPEC. Its need to narrow the scope of the planning process suggests that GPEC must carefully delineate its expectations of advisory committees. Too broad a statement of the committees' responsibilities could extend the planning effort into areas in which the Commission is incapable of acquiring data and/or into areas which the Commission would prefer not to plan. Too narrow a statement could result in committee member frustration and minimal personal investment in the eventual plan.

The procedural guidelines that follow may serve as a model for the GPEC planning process. Developed by Glenny, Berdahl, Palola, and Paltridge, those guidelines should require relatively minor modification. Such modification may be necessary, however, due to constraints on staff time and the relatively limited lead time for the plan's preparation.

Guidelines for the Master Planning Process

1. Establishing the planning focus.
    a. The board and its staff cannot adequately establish the focus of planning without considerable outside help, especially from institutional experts.
    b. An open-ended questionnaire survey should be conducted to discover the issues and problems that various groups and individuals consider of high priority and determine the conditions in education which are considered satisfactory.

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[1] Lyman A. Glenny, et. al., Coordinating Higher Education for the '70's. 1971, p. 32.

c. Included in the survey should be members of legislative committees on education and appropriations, key citizen groups, and interest groups influencing education, educators, experts in and out of institutions, and individuals who have provided leadership in education.

d. Aided by standing advisory committees, the board should suggest staff priorities among the problems and issues to be resolved and suggest the assumptions and goals to be used.

e. The board should review thoroughly the priorities before adopting them as the basis for the plan or planning cycle.

f. The board should identify and adopt the problems and issues to be dealt with in any one planning cycle, limiting the number of issues to manageable proportions. Too many controversial subjects dealt with at once may confuse public consideration and void the possibility of achieving any of the planning objectives.

g. The board should develop a "Guide for the Plan," based on the assumptions, goals, and problems to which it has given priority and distribute the guide to all board members, standing committees, institutional leaders, and other interested parties.

2. Planning for particular objectives on problems or issues

a. Problems and issues should be divided into fairly discrete packages, each of which may then be dealt with by a single technical committee consisting of experts on the subject as well as informed citizens. (Some boards have used as many as 15 such committees in a single planning cycle.)

b. Each technical committee (or task force) should be charged in writing with obtaining necessary data and information, providing the analyses, and suggesting the recommendations on the subject. This is often best done by making the charge in the form of policy questions.

c. The committees should be coordinated but not dominated or closely directed in their activities by a high level staff person from the board, preferably the executive director or the associate director for planning. Each committee should be kept within reasonable boundaries of its problem area but be free to explore relationships with other committees in the planning process, as well as free to raise issues not mentioned in the charge for its own problem area.

d. The board staff should supply information, clerical services, publishing services, and funds for consultative help to each committee. The committee should determine its own research and review method, what data are to be gathered, what analyses made, and what recommendations suggested.

e. Staff should not provide leadership only to gain preconceived findings or recommendations. Such actions destroy the very reason for having technical committees-to obtain fresh and varied viewpoints.

f. Each committee should prepare a final report for immediate publication and wide distribution by the board. Both an oral and a written report should be made to and discussed with the board.

3. Coordinating and making the plan.

a. Each member of the general advisory committees should be furnished copies of the technical committee reports.

b. Each advisory committee, already having discussed and considered the policy issues contained in the "Guide for the Plan," should review the technical committee reports, make its own analyses, and suggest the answers to the policy questions raised in the guide.

c. Each advisory committee should develop its own plan and report it to the board and staff both orally and in writing.

d. The staff should provide services to the committees but not direct the analyses or the recommendations.

e. Conflicts between recommendations of advisory committees should not be forestalled by staff interventions prior to the committee's taking final action and reporting. (The recommendations of any advisory committee are almost certain to conflict in part with those of any other advisory committee, if for no other reason than that their composition provides very different perspectives.)

f. Using the technical committee reports, the advisory committee reports, and its own knowledge and judgment, the board staff should prepare its own analyses and recommendations for board consideration.

g. The board should review, discuss, and amend the staff plan as necessary and then accept the plan pending public hearings.

h. Public hearings should be held throughout the state (best locations are usually at the university and college campuses) at which a board member presides and other members are present. Any citizen should be allowed to testify at a hearing.

i. The staff should make such changes in the draft plan as it believes desirable and submit its final version to the board for adoption.

j. The board should review, discuss, amend if necessary, and adopt the plan.

4. Political coordination and action on the plan.

a. The plan should be published in substantial numbers and widely distributed to the legislators, governor, governing boards, institutional constituencies, and to the public at large upon request.

b. The board and its staff should arrange to provide a private briefing on the main points and rationale of the plan for legislative leaders and the governor, particularly if statutory action is necessary to put parts of the plan into effect.

c. The board and its staff should provide the leadership explanations and testimony in support of the plan.
d. The staff should so organize support from institutions, civic organizations, and citizens to inform the legislature of the issues and to prevent redundant testimony.

5. Creating a new planning base.
   a. Once the legislature and governor have acted on all or part of the plan, the board and staff should reassess their planning assumptions and goals, taking into consideration the legislative attitudes on and actual amendments made to the plan.
   b. With the reassessed assumptions and the plan as finally adopted as a base, the board should commence the next planning cycle.[2]

Presentation of the Master Plan

The preceding guidelines suggest how, to whom, and when the plan should be presented as a completed document. One seemingly trivial but actually important decision is whether or not to issue the plan as a single document. Some states, especially those in their second or later planning cycle, have abandoned the single volume plan as tending to inhibit periodic modification.

The Indiana coordinating commission used a two-volume approach to presenting its master plan. The first volume contained purely descriptive data and information on the system. After allowing a brief period for reaction to that information, the Indiana commission then issued a second volume containing its recommendations relative to the data.

A second example of the multiple document approach is found in Michigan. Michigan's coordinating agency identified its twenty or more goals for postsecondary education in the state, issued a document containing the goals, and then issued separate documents relating to statewide progress in each area. Each of the documents is periodically revised to include updated system data and identification of new issues and problems.

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[2] Glenny, et. al., ibid, pp. 35-39

The ability quickly to produce planning documents and to narrow the scope of the planning process may be attractive to GPEC. It should be pointed out, however, that while multiple volume plans tend to keep the agency's work visible, their impact may be somewhat lessened as more and more volumes are produced.

Since GPEC's decision relative to the presentation does not greatly affect the content of the plan in Sections 2 and 3, the consultants have described procedures as if GPEC were completing a single document plan.

SECTION 2: MASTER PLAN CONTENT

Overview of Master Plan Content

In Statewide Planning in Higher Education, Halstead provides a useful description of master plan content based upon his review of plans from numerous states.[3] He categorizes all master plan content into seven broad component features:

1. Premises which form the basis for state educational objectives and which underlie the patterns of planning and coordination development.
2. Immediate and long-range postsecondary educational goals of the state.
3. Socioeconomic conditions of the state, and implications of these conditions for higher education.
4. Analysis of a wide variety of topic areas.
5. Supporting statistics and advisory studies.
6. Integrated recommendations.

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[3] Halstead's section on master planning, especially pages 13-28, should be consulted as a useful reference source for GPEC.

7. Plans for implementation and simultaneous review of progress.

Within the preceding list, only feature number 5, supporting statistics and advisory studies, is of questionable suitability for inclusion in any master plan. Halstead's observations notwithstanding, advisory studies are frequently issued separately from the master plan - either as individual studies or as a compilation of studies. Other than this one relatively minor point, Halstead's list identifies master plan components accurately, although in very general terms.

Moving to a more specific discussion of content, Halstead lists the various potential topic areas that define the actual content of the plan. Again the topics listed below represent the major subject areas receiving the greatest emphasis is plans reviewed by Halstead.

Planning Topics

1. Components related to the goal of developing human resources to the maximum through encouragement and guidance of student entrance and passage through the higher education system; specifically,
   a. A policy to provide equal and open educational opportunities beyond high school for all who seek and can benefit therefrom, with these opportunities continuing until each person's needs for economic and social self-sufficiency are met;
   b. A program of high school and college counseling and remedial work to identify, conserve, and develop the talents of all citizens, and to encourage individuals to continue their education to the extent of their abilities and motivation;
   c. Guidance for nonresident students with respect to admission standards, retention and transfer policies, and articulation among the segments;
   d. A program of student financial support to enable each

qualified individual, regardless of financial position, to attend an institution suitable to his needs, interests, and abilities; also, a related policy to deal with the proportion of financial aid to be borne by the student, his parents, and the government-State, local, and Federal.

2. Components related to the goal of providing higher education programs and services to meet the diversified needs of the citizenry, as well as State needs for trained manpower and research requirements; specifically,
    a. Means for providing comprehensive higher education programs to meet present and projected enrollments-baccalaureate, graduate, and professional; subbaccalaureate programs providing an opportunity for preparation in short-term specialized occupational areas and on the college level to ensure entry into semiprofessional, technical, or vocational fields, and adult education programs.
    b. A plan for the development of higher education public service to the State-programs which will contribute to the social, cultural, and moral well-being of the citizenry;
    c. A plan to promote and encourage research;
    d. Recommendations for the continued improvement of instruction and curriculums, including experimentation with innovative educational media;
    e. A program to provide the necessary training at recommended levels to meet carefully made estimates of trained manpower requirements;
    f. A plan indicating how educational programs, by level and by type, will be distributed-by both economic-geographical region and institutions-so that cost factors and accessibility are fairly apportioned throughout the State.
3. Components related to the goal of providing a State system and organizational structure to achieve effective operation

and orderly growth of higher education; specifically.

a. Designation of the immediate role or function of each institution within the State system, based on desired division of responsibilities, together with recommendations for future roles and coordination of efforts;

b. Establishing criteria for new 2-year colleges, 4-year colleges, and universities, as well as policy relative to institutional expansion and/or curtailment;

c. Provision for continuous planning, supportive research, data management, and coordination, with special attention to the private sector and to effective communication between State agencies and individual institutions;

d. A policy toward State or local governance of 2-year colleges;

e. Directions to guide and encourage institutions in making cooperative arrangements, especially the sharing of libraries, exchange of faculty, coordination of extension services, pooling of ETV network programming, joint use of research facilities, and scheduling of regional consortiums.

4. Components related to the goal of attracting and retaining a faculty of able and dedicated teachers, scholars, and researchers; specifically,

   a. Conducting faculty supply and demand studies based on institutional education, research, and service obligations;

   b. Establishing broad policies designed to secure and maintain a competent faculty: recruitment, salaries, staff benefits, teaching and service loads, research opportunities, tenure, and so on.

5. Components related to the goal of providing adequate and appropriate facilities and of securing efficiency in physical plant construction, utilization, and operation;

specifically,

- a. Projection of space needs and plans for the design and construction of new facilities, particularly as they relate to the campus master plan for expansion;
- b. A system for the efficient utilization of physical plant facilities, on both daily and yearly basis;
- c. A plan for financing capital construction and for determining priorities among institutions and campuses.

6. Components related to the goal of providing the fullest possible financial support for higher education, equitable distribution of funds, and efficient use of available resources to achieve the highest possible level of excellence; specifically,
    - a. Recommendations to guide and encourage State and local tax efforts to support higher education in order to maintain desired quantity and quality;
    - b. Recommendations regarding tuition and fees to be charged, consistent with student financial aid policies;
    - c. A policy for the support of research;
    - d. A policy for allocating State higher education funds among public, private, and other major sectors;
    - e. Procedures for determining the kind of financial recommendations needed to meet budgetary needs of individual institutions and assure fair distribution of money among the institutions.[4]

At no time does Halstead suggest that all of the above planning topics must be addressed in the master plans of every state. Obviously, the specific topics to be addressed must be determined by each commission's board, staff, and advisory bodies. In that context, the consultants have identified a core of content for inclusion in the GPEC master plan.

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[4] Halstead, ibid, pp. 26-28.

Components of the GPEC Master Plan

The consultants have based their identification of GPEC master plan components upon the nature of the studies the Commission plans to conduct prior to issuing the plan and upon a review of the usual and most basic elements of master planning documents prepared by other state agencies. Future GPEC decisions regarding its goals and objectives for post-secondary education in Georgia may necessitate additional topics and contents. Given the inability to foresee those decisions and the charge to assist the Commission in defining what should be in the planning document (not what could be), the consultants have outlined, chapter by chapter, the contents for the GPEC plan. The sequence of chapters is intended to represent what is viewed as a logical progression from simple to more complex topics.

Chapter 1: The Purposes, Goals, and Objectives of the Master Plan

While GPEC has stated its intentions for planning, it probably has not systematically identified its purposes, goals, and objectives. These reasons for planning should include a discussion of GPEC's history and its authority relative to planning efforts.

As the Commission sets forth its goals and objectives, special attention should be given to carefully defining terms. As an example, if an objective is to increase access, "access" should be defined, not as it is defined in the educational literature, but specifically as GPEC defines it. Similarly, the various institutional functions, i.e., instruction, research, etc., should be defined as precisely as possible but in terms readily understood by the layman.

Since this section of the master plan serves as a framework for the analysis appearing in subsequent sections of the document, Chapter 1 should be as concise as possible.

Chapter 2: The Governance and Structure of Postsecondary Education in Georgia

This chapter should begin with a very brief section describing the historical development of postsecondary education in Georgia. Early institutions and landmark legislation for higher education should be identified. Thereafter, a chronology of postsecondary education should be presented. This chronology should include reference to all segments of postsecondary education (See the Indiana Commission for Higher Education, The Indiana Plan for Postsecondary Education: Phase One, Vol. 1, pp. 23-25 for an example of a brief but adequate three page history).

The second and major section of this Chapter should be devoted to identifying and describing the governing bodies of each type of institution in Georgia. This may be accomplished by identifying a-l institutions by their type of control, i.e., private, independent, public, and then focusing on the controlling bodies of public institutions.

GPEC may wish to identify campuses by planning region in this chapter. If so, campuses can be identified within each region by type, i.e., liberal arts college, community college, etc.; by control; and by founding date.

The sources of information for Chapter 2 are numerous. In addition to state educational histories, the work of M.M. Chambers should prove invaluable in describing by the system in Georgia exists as it does.[5]

Chapter 3: The Current Status of Postsecondary Education in Georgia

This chapter is intended to briefly discuss the more important characteristics of the Georgia system of postsecondary education. With the exception of enrollments, most of these characteristics should be discussed very briefly. Charts and tables comparing ranked Georgia data to that of comparable states, and other states in the region and nation should be relied upon to convey much of the information contained in this section.[6]

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[5] Chambers publications cited in the bibliography of this report should prove especially helpful.

Table 1 identifies topics to be discussed in this section, the nature of the data to be presented for each topic, and the sources of that data.

In ultimately deciding which of these suggested topics to include in this chapter, the GPEC staff should be motivated by several considerations. First, they should select the topics and the specific data and the analysis and comparisons that are most helpful in highlighting issues and problems in Georgia education and in focusing planning recommendations. Second, the staff should select the data and analysis that graphically highlight trends and relationships, yet are economical in terms of space, and readability.

In this regard, the "marginal value" of extra information and analysis must be weighed in a tough-minded manner against the cost incurred through making the report more complex and longer. Third, the availability of the data and the amount of staff time necessary to retrieve and analyze it must be considered. Guided by these principles, the GPEC staff will probably decide to emphasize certain topics and provide lesser treatment to others, or eliminate some altogether.

The section dealing with the nature of Georgia learners and enrollments in postsecondary education summarizes some of the major findings of the accessibility and enrollment studies. The purposes of this section of the status report are to describe historical and current characteristics of Georgia postsecondary

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[6] See the brief technical report included as Appendix A of this report for a description of procedures used in selecting comparable states.

TABLE 1
TOPICS AND SOURCES OF INFORMATION FOR THE STUDY OF THE CURRENT STATES OF POSTSECONDARY EDUCATION IN GEORGIA

Topic	Nature of the Information and/or Comparison	Sources
1. Nature of Georgia Learners and Enrollments in Postsecondary Education	a. Summary of Georgia's student characteristics: race, sex, family income, full-time/part-time learners.	Accessibility study
	b. County and regional high school graduation rates. Comparison with peer states (North Carolina and Tennessee).	Accessibility study
	c. County and regional rates of attendance in postsecondary education for high school graduates. Comparison with peer and national rates.	Accessibility study
	d. Historical and current enrollments in different segments of Georgia postsecondary education.	Enrollment study
	e. Projections of Georgia's potential learner population and of potential enrollments, given certain assumptions about the future.	Enrollment study
2. Production of Degrees	a. Historical and current (perhaps 1970 and 1974) degree production, disaggregated by degree level and by segment of postsecondary education.	HEGIS data
3. Financing Postsecondary Learning	a. State tax revenues, sources of tax, and some calculation of the relative tax burden.	Office of Planning and Budget, Halstead.
	b. Calculation of support for higher education as a percent of state revenues and as a percentage of per capita income. Comparison with peer states.	Chambers, Halstead, Glenny and Kidder
	c. Historical summary of allocations of state revenues to different segments of postsecondary education.	Office of Planning and Budget

TABLE 1
(Continued)

Topic	Nature of the Information and/or Comparison	Source
4. Student Tuition and Financial Aids	a. Student tuitions and fees by segment of postsecondary education. Changes between 1970 and 1975.	Accessibility study
	b. Student financial aid information: total dollars available, to what types of students (merit, need, minority) and in what form (loans, workstudy, grants, scholarships).	The availability of this data is questionable. The University System of Georgia is a potential source. Also, HEGIS survey on institutional financial data has categories for student aid.
5. Educational Facilities	a. Comparison in 1970 and in 1975 of headcount enrollments in net assignable square footage.	HEGIS data
	b. Identification of potential problem areas in facilities adequacy. Specifically, areas where enrollment gains that may occur could cause need for more facilities at existing institutions or new institutions. (i.e., Atlanta metropolitan area)	Comparison of HEGIS facilities data and data from enrollment studies.
6. Interinstitutional Cooperation	a. Identification of existing forms of interinstitutional cooperation involving libraries, computing, professional schools, general academic facilities.	Examples of existing cooperative ventures in Georgia.
7. The Learning Society in Georgia	a. Identification of Georgia's liberal utilization of Continuing Education (CEU's).	Examples of the use of CEU's, for example, Georgia State University.

learners, their numbers, and what their potential numbers may be in the future. Due to the large amount of data that will be available from the enrollment and accessibility studies, this portion of the status study must carefully utilize only the most salient and graphic findings.

The discussion of the historic and current production of degrees is a necessary companion piece to enrollment data. As with the preceding section, there exists a great potential for data overkill in this segment. In addition to degree production, other measures of educational production, such as student credit hours or continuing education units, may be useful indicators, and should be considered.

As in most statewide plans for postsecondary education, the treatment of the financing of postsecondary learning generates a high level of interest. The consultants suggest three basic components of this segment. First, the status study should contain some exposition of the trends in the generation of Georgia state tax revenues, the sources of these tax revenues, and the relative tax burden. This data should be available, both for current and historic time periods, from the Office of Planning and Budget. Kent Halstead's work on tax burden and his data on all 50 states may be used as a guide and may provide comparable data for peer states. As in previous segments, comparisons should be selected that convey the facts cogently yet in a minimal amount of space.

The second facet of the financial segment should calculate historic trends in the support for higher education as a percent of total state revenues and as a percentage of per capita income. Georgia's figures should be compared to the national norms and to its peers, North Carolina and Tennessee, along these dimensions. Halstead has performed some work in this area, and the work of M.M. Chambers and Lyman Glenny and James Kidder (cited in the bibliography of this report) may contain just the sorts of comparisons that may be used intact in the statewide status report.

The final segment of the financing postsecondary learning segment should demonstrate how allocations of state revenues and the actual total institutional expenditures (which include state funds plus funds from other sources) have varied among the different segments of Georgia postsecondary education. This data should be available from the Office of Planning and Budget, or from HEGIS reports on institutional finances.

The subject of student tuition and financial aids is an important consideration in focusing statewide planning. Information on student fees and tuition by segment of postsecondary learning should be generated by the accessibility study. Information on the amount and composition of financial aid available to Georgia students is another matter, however. The University System of Georgia or HEGIS are potential, sources for some financial aid information, but the question remains as to whether the information would adequately portray the aid capabilities available to different types of students. Also, it is difficult to evaluate financial aid in a vacuum; it may be necessary to compare the absolute levels of financial aid in different categories to the levels in peer states.

A statewide plan would be remiss in its duty if it did not address the issue of educational facilities. Indeed, the accessibility study focuses on one portion of the facilities issue, namely, the placement of new institutions in proximity to Georgia learners that occurred in the 1970's. The detailed assessment of the adequacy of the amount and type of educational space available to Georgia postsecondary learners is far more complex however. The work of GPEC's predecessor, the Facilities Commission, and HEGIS facilities data can be tapped to yield data on historical trends in the adequacy of educational facilities. However, the consultants feel that the detailed analysis of such facilities data could constitute a drain on GPEC's resources that is not commensurate with the payoffs. Moreover, the results of facilities utilization and available studies are largely determined by the standards employed as benchmarks, and such standards are fair game for criticism, even when wisely chosen. Therefore, the consultants recommend that facilities availability and utilization data be used minimally in the status report, and that the major emphasis be placed on using whatever facilities data is available from "canned" sources to highlight potential needs for increased facilities that may be caused by the potential continued growth of Georgia postsecondary learning. This need is especially keen in the Atlanta area, and will probably require new construction at existing institutions and perhaps even new institutions to deal with the rapidly burgeoning population of that area. The GPEC status report should reiterate the importance of continued facilities studies in the future as Georgia has to cope with an expanding postsecondary education sector.

Significant examples of interinstitutional cooperation currently exist among Georgia postsecondary institutions. The cooperation among the predominantly black institutions in Atlanta and among other consortia of institutions are several cases in point. The computer networking that links the University of Georgia, Georgia State University and Georgia Tech and the distributed loop network joining many state colleges and community/junior colleges to a central computer are nationally recognized models of successful sharing. The reciprocal arrangements between the University of Georgia veterinary medicine program and other southern states has been an example of cooperation involving professional education. While the list could go on even further, the point is that interinstitutional cooperation is an especially useful tool for the next decade in Georgia. Research has shown that various forms of interinstitutional sharing are highly effective in expanding services and increasing the capabilities of have-not institutions at a cost significantly lower than if services had been duplicated on every campus. Sharing has not been successful, however, in taking resources from one institution and giving them to another, or in actually reducing costs.[7] Since, the major challenges facing Georgia postsecondary learning in the next decade are to expand services at the least possible cost, interinstitutional cooperation seems to provide a particularly attractive tool for continued enhancement of effectiveness and avoidance of unnecessary costs.

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[7] Donald M. Norris, "Externally Mandated Interinstitutional Cooperation", 1975, pp. 5-6.

Finally, the status report should underscore the implications of Georgia's support for the learning society in Georgia. Through liberally endowing continuing education units, the state is making an important commitment to adult learning. Statistics on the growing use of CEU's, say at Georgia State University, might emphasize the importance of this concept of adult educational entitlement.

Chapter 4: Issues and Problems

The content of this chapter should be determined by the findings from the issues and problems studies, the suggestions of GPEC and its advisory committees, and the results of the accessibility and program duplication studies.

Topical issues presented in Halstead's list reproduced on Pages 116-119 of this report should be treated in considerable detail. The findings of advisory and technical committees will constitute the majority of the content presented for all topics excluding that of the accessibility and program duplication studies.

Chapter 5: Recommendations

This section should include recommendations from the Commission and its advisory committees that respond to issues and problems identified in Chapter 4 of the master plan. Each recommendation should include reference to one of the plan's goals or objectives as well as identifying the Commission's conclusions relevant to each recommendation. The recommendations should identify what can be done to improve system performance. and which participants in the total system of Georgia postsecondary education should be charged with effecting the changes.

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TECHNICAL REPORT: COMPARABLE STATE GROUPING PROCEDURES

State-level planners frequently compare data on their state to similar data for other states. Data on demographic, economic, and educational factors are among the characteristics most frequently compared. As an example, state master planning documents usually contain comparisons of the state's high school graduation rate to the rates of other states in the geographic region and to the rates of all states. While such comparisons can be helpful to the state planner, especially when the objective is the measurement of relative progress, the comparisons can be misleading.

The danger of interstate comparisons should be obvious in the case of comparing Georgia to its neighboring states. While the Carolinas, Tennessee, and Alabama resemble Georgia for a host of demographic and economic variables, Florida is radically different from Georgia. A comparison of the educational progress of Georgia to that of Florida will ignore numerous variables that have an effect on levels of financial support for postsecondary education, on manpower needs, and numerous other factors affecting the state system. Similarly, Georgia is not comparable to any of its neighbors for all factors related to the achievement of elementary-secondary school system, financial support of higher education, and public higher education's organization, emphasis, and achievement.

The problem of identifying truly comparable states has been addressed by numerous publications. Among those publications is Halstead's State Planning in Higher Education. Halstead presents a systematic procedure that identifies comparable states while controlling for certain critical variables. Rather than elaborating on the procedure here, the reader should review pages 47 through 51 of the volume.

The purpose for discussing comparability in this report is two-fold. First, the consultants recommend that GPEC use Halstead's procedures in the preparation of its master plan. Regional and comparable state groupings, if the latter is adequately explained in the report, will do much to place Georgia's educational assets and liabilities in a larger perspective. Second, while GPEC could rather easily replicate the work,during the course of their work, the consultants developed data using Halstead's procedures. The pages that follow present those data without narrative descriptions. Halstead's explanations should render the data meaningful and, hopefully, valuable to GPEC planners (all data are from Halstead, pp. 70-89).

Factor 1: Elementary-Secondary School Achievement Peer States: Maine, South Dakota, North Carolina and Tennessee

Index	Maine	S. Dakota	Georgia	N. Carolina	Tenn.
#7 Financial Support Achievement	$677	$656	$572	$584	$565
#8 Holding Power	88.1	87.0	66.0	69.1	70.8
#2 Elem-Sec. Productivity	91.6	88.1	67.0	69.1	70.4
#9 College-Entrance Rate	34%	55%	41%	41%	46%
#10 Composite Index	95	102	79	81	84

Index	Georgia's Rank in Peer Group	Georgia's Rank Nationally
#7	4	45
#8	5	50.5
#2	5	45
#9	3.5	47.5
#10	5	50.5

Factor 2: Financial Support of Higher Education
Peer States: Massachusetts, New Hampshire, Indiana, Ohio, Virginia and Tennessee

Index	Mass.	New Hamp.	Indiana	Ga.	Ohio	Va.	Tenn.
#14 Tax Effort	102	48	42	103	50	102	92
#15 Allocations to Higher Education	6.1	11.3	15.4	13.2	14.1	12.3	12.7
#16 Achievement Relative to Burden	$1051	$961	$2036	$2107	$1485	$1882	$1685
#17 Achievement Relative to Enrollment	$1091	$873	$1461	$1588	$1136	$1437	$1140

Index	Georgia's Rank in Peer Group	Georgia's Rank Nationally
#14	1	23
#15	3	27
#16	1	26
#17	1	12

Factor 3: Public Higher Education - Organization, Emphasis and Achievement
Comparable States: Alabama, Kansas, Pennsylvania, Colorado, Minnesota, and North Carolina

Index	Ala.	Kansas	Ga.	Penn.	Colo.	Minn.	North Carolina
#18 Absolute Magnitude of Need	1.6	1.2	2.0	6.3	1.1	2.3	2.4
#19 Student Tuition and Ability to Pay	139.3	76.6	137.7	156.6	125.9	91.2	112.8
#20 Free-access Education	56%	43%	30%	25%	42%	29%	68%
#21 Resources Available to Provide Quality	$835	$858	$965	$1004	$954	$770	$1062
#22 Drawing Power from High School	35%	49%	27%	21%	50%	39%	25%
#23 Public Shore of Resident Enrollment	75%	77%	70%	47%	81%	73%	63%
#24 2 yr. College Shore of Enrollment	22.0%	20.5%	19.6%	15.5%	15.4%	15.6%	13.3%

Index	Ala.	Kansas	Ga.	Penn.	Colo.	Minn.	North Carolina
#25 Emphasis on Degree Programs	14.3%	13.0%	13.6%	13.6%	13.0%	11.6%	15.5%
#26 Emphasis on Graduate Programs	77.3	130.6	11.7	147.8	127.0	110.1	111.8

Index	Georgia's Rank in Peer Group	Georgia's Rank Nationally
#18	4	17
#19	5	41
#20	5	40.5
#21	3	17
#22	5	39
#23	5	24
#24	3	22
#25	3.5	17
#26	5	34

Peer Group for the Three Factors and Adjacent States

Factor 1	Factor 2	Factor 3	Adjacent States
North Carolina		North Carolina	North Carolina
Tennessee	Tennessee		Tennessee
Main			
South Dakota			
	Massachusetts		
	New Hampshire		
	Indiana		
	Ohio		
	Virginia		
		Alabama	Alabama
		Kansas	
		Pennsylvania	
		Colorado	
		Minnesota	
			South Carolina
			Florida

Closest Overall Peer States = North Carolina and Tennessee